SEQUENCE LISTING

<110> CHUGAI RESEARCH INSTITUTE FOR MOLECULAR MEDICINE, INC.

<120> PROTEIN HAVING PDZ DOMAIN SEQUENCE

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<150> JP 09-230356

JP 10-189944

<151> 1997-8-12

1998-6-19

<160> 87

<170> PatentIn version 2.0

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<212> PRT

<213> Homo sapience

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Gly	Arg	Ile	Lys	Ala	Gly	Pro	Phe	His	Ser	Glu	Arg	Arg	Pro	Ser	Gln
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Leu	Leu	Lys	Asn	Ala	Ser	Gly	Ser	Ile	Glu	Met	Gln	Val	Val	Ala	Gly
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Gly Leu Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser

35 40 45

Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu

60

55

Glu Ser Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg

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Lys	Asn	Ala	Leu	Ala	Ser	Glu	Ile	Gln	Gly	Leu	Arg	·Thr	Val	Glu	Met
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Tyr Thr Pro Ala Asn Ala Ile Glu Gln Gln Tyr Glu Cys Glu Asn Thr
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325 330 335

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Thr	Ile	Ser	Val	Thr	Asn	Ala	Gln	Ala	Arg	Ala	Met	Leu	Arg	Arg	His		
435					440					445					450		
	·							-									
tct	ctc	att	ggc	cct	gac	ata	aaa	att	act	tat	gtg	cct	gca	gaa	cat	1	689
Ser	Leu	Ile	Gly	Pro	Asp	Ile	Lys	Ile	Thr	Tyr	Val	Pro	Ala	G1 u	His		
				455					460					465			
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ttg	gaa	gag	ttc	aaa	ata	agc	ttg	gga	caa	caa	tct	gga	aga	gta	atg	. 1	737
Leu	Glu	Glu	Phe	Lys	Ile	Ser	Leu	Gly	Gln	Gln	Ser	Gly	Arg	Val	Met		
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gca	ctg	gat	att	ttt	tct	tca	tac	act	ggc	aga	gac	att	cca	gaa	tta	1	785
Ala	Leu	Asp	Ile	Phe	Ser	Ser	Tyr	Thr	Gly	Arg	Asp	Ile	Pro	Glu	Leu		
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cca	gag	cga	gaa	gag	gga	gag	ggt	gaa	gaa	agc	gaa	ctt	caa	aac	aca	1	833
Pro	Glu	Arg	Glu	Glu	Gly	Glu	Gly	Glu	Glu	Ser	Glu	Leu	Gln	Asn	Thr		
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gca	tat	agc	aat	tgg	aat	cag	ссс	agg	cgg	gtg	gaa-	ctc	tgg	aga	gaa	1	881
Ala	Tyr	Ser	Asn	Trp	Asn	Gln	Pro	Arg	Arg	Val	Glu	Leu	Trp	Arg	Glu		
515					520					525					530		

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Pro	Ser	Lys	Ser	Leu	Gly	Ile	Ser	Ile	Val	Gly	Gly	Arg	Gly	Met	Gly	
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Ser	Arg	Leu	Ser	Asn	G 1 y	Glu	Val	Met	Arg	Gly	Ile	Phe	Ile	Lys	His	
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gtt	ctg	gaa	gat	agt	cca	gct	ggc	aaa	aat	gga	acc	ttg.	aaa	cct	gga	2025
Val	Leu	Glu	Asp	Ser	Pro	Ala	G 1 y	Lys	Asn	Gly	Thr	Leu	Lys	Pro	Gly	
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gat	aga	atc	gta	gag	gca	ссс	agt	cag	tca	gag	tca	gag	cca	gag	aag	2073
Asp	Arg	Ile	Val	Glu	Ala	Pro	Ser	G 1 n	Ser	Glu	Ser	Glu	Pro	Glu	Lys	
	580					585					590					
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gct	cca	ttg	tgc	agt	gtg	ссс	cca	ccc	cct	cct	tca	gcc	ttt	gcc	gaa	2121
Ala	Pro	Leu	Cys	Ser	Val	Pro	Pro	Pro	Pro	Pro	Ser	Ala	Phe	Ala	.G1u	
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Met	Gly	Ser	Asp	His	Thr	Gln	Ser	Ser	Ala	Ser	Lys	Ile	Ser	Gln	Asp	
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gtg	gac	aaa	gag	gat	gag	ttt	ggt	tac	agc	tgg	aaa	aat	atc	aga	gag	2217
														Arg		
															•	

630 635 640

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cgt	tat	gga	acc	cta	aca	ggc	gag	ctg	cat	atg	att	gaa	ctg	gag	aaa	2265
Arg	Туг	Gly	Thr	Leu	Thr	Gly	Glu	Leu	His	Met	Ile	Glu	Leu	Glu	Lys	
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				-												
ggt	cat	agt	ggt	ttg	ggc	cta	agt	ctt	gct	ggg	aac	aaa	gac	cga	tcc	2313
Gly	His	Ser	Gly	Leu	Gly	Leu	Ser	Leu	Ala	Gly	Asn	Lys	Asp	Arg	Ser	
-	660					665					670					
agg	atg	agt	gtc	ttc	ata	gtg	ggg	att	gat	cca	aat	gga	gct	gca	gga	2361
Arg	Met	Ser	Val	Phe	Ile	Val	Gly	Ile	Asp	Pro	Asn	Gly	Ala	Ala	Gly	
675					680					685					690	
aaa	gat	ggt	cga	ttg	caa	att	gca	gat	gag	ctt	cta	gag	atc	aat	ggt	2409
Lys	Asp	Gly	Arg	Leu	Gln	Ile	Ala	Asp	G 1, u	Leu	Leu	Glu	Ile	Asn	Gly	
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cag	att	tta	tat	gga	aga	agt	cat	cag	aat	gcc	tca	tca	atc	att	aaa	2457
Gln	Ile	Leu	Tyr	Gly	Arg	Ser	His	Gln	Asn	Ala	Ser	Ser	Ile	Ile	Lys	
			710					715					720			
tgt	gcc	cct	tct	aaa	gtg	aaa	ata	att	ttt	atc	aga	aat	aaa	gat	gca	2505
Cys	Ala	Pro	Ser	Lys	Val	Lys	Ile	Ile	Phe	Ile	Arg	Asn	Lys	Asp	Ala	
		725					730					735				
		-					-								٠	

gtg aat cag atg gcc gta tgt cct gga aat gca gta gaa cct ttg cct

Val Asn Gln Met Ala Val Cys Pro Gly Asn Ala Val Glu Pro Leu Pro
740 745 750

	740					745					750					
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Ser	Asn	Ser	Glu	Asn	Leu	Gln	Asn	Lys	Glu	Thr	Glu	Pro	Thr	Val	Thr	
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act	tct	gat	gca	gct	gtg	gac	ctc	agt	tca	ttt	aaa	aat	gtg	caa	cat	2649
Thr	Ser	Asp	Ala	Ala	Val	Asp	Leu	Ser	Ser	Phe	Lys	Asn	Val	Gln	His	
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ctg	gag	ctt	CCC	aag	gat	cag	ggg	ggt	ttg	ggt	att	gct	atc	agc	gaa	2697
Leu	Glu	Leu	Pro	Lys	Asp	Gln	Gly	Gly	Leu	Gly	Ile	Ala	Ile	Ser	Glu	
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gaa	gat	aca	ctc	agt	gga	gtc	atc	ata	aag	agc	tta	aca	gag	cat	ggg	2745
Glu	Asp	Thr	Leu	Ser	Gly	Val	Ile	Ile	Lys	Ser	Leu	Thr	Glu	His	Gly	-
		805					810					815				
		-														
gta	gca	gcc.	acg	gat	gga	cga	ctc	aaa	gtc	gga	gat	cag	ata	ctg	gct	2793
Val	Ala	Ala	Thr	Asp	Gly	Arg	Leu	Lys	Val	Gly	Asp	Gln	Ile	Leu	Ala	
	820					825					830					
						٠										
gta	gat	gat	gaa	att	gtt	gtt	ggt	tac	cct	att	gaa	aag	ttt	att	agc	2841

Val Asp Asp Glu Ile Val Val Gly Tyr Pro Ile Glu Lys Phe Ile Ser

845

850

ctt ctg aag aca gca aag atg aca gta aaa ctt acc atc cat gct gag Leu Leu Lys Thr Ala Lys Met Thr Val Lys Leu Thr Ile His Ala Glu aat cca gat tcc cag gct gtt cct tca gca gct ggt gca gcc agt gga Asn Pro Asp Ser Gln Ala Val Pro Ser Ala Ala Gly Ala Ala Ser Gly gaa aaa aag aac age tee cag tet etg atg gte eea cag tet gge tee Glu Lys Lys Asn Ser Ser Gln Ser Leu Met Val Pro Gln Ser Gly Ser cca gaa ccg gag tcc atc cga aat aca agc aga tca tca aca cca gca Pro Glu Pro Glu Ser Ile Arg Asn Thr Ser Arg Ser Ser Thr Pro Ala att ttt gct tct gat cct gca acc tgc ccc att atc cct ggc tgc gaa Ile Phe Ala Ser Asp Pro Ala Thr Cys Pro Ile Ile Pro Gly Cys Glu aca acc atc gag att tcc aaa ggg cga aca ggg ctg ggc ctg agc atc Thr Thr Ile Glu Ile Ser Lys Gly Arg Thr Gly Leu Gly Leu Ser Ile gtt ggg ggt tca gac acg ctg ctg ggt gcc ttt att atc cat gaa gtt Val Gly Gly Ser Asp Thr Leu Leu Gly Ala Phe Ile Ile His Glu Val

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Tyr	Glu	Glu	Gly	Ala	Ala	Cys	Lys	Asp	Gly	Arg	Leu	Trp	Ala	Gly	Asp	
		965					970					975			•	
cag	atc	tta	gag	gtg	aat	gga	att	gac	ttg	agg	aag	gcc	aca	cat	gat	3273
Gln	Ile	Leu	Glu	Val	Asn	Gly	Ile	Asp	Leu	Arg	Lys	Ala	Thr	His	Asp	
	980					985					99Ò					
gaa	gca	atc	aat	gtc	ctg	aga	cag	acg	cca	cag	aga	gtg	cgc	ctg	aca	3321
Glu	Ala	Ile	Asn	Val	Leu	Arg	Gln	Thr	Pro	Gln	Arg	Val	Arg	Leu	Thr	
995					1000)				1005	i				1010	
ctc	tac	aga	gat	gag	gcc	cca	tac	aaa	gag	gag	gaa	gtg.	tgt	gac	acc	3369
Leu	Туг	Arg	Asp	Glu	Ala	Pro	Tyr	Lys	Glu	Glu	Glu	Val	Cys	Asp	Thr	
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ctc	act	att	gag	ctg	cag	aag	aag	ccg	gga	aaa	ggc	cta	gga	tta	agt	3417
Leu	Thr	I 1 e	Glu	Leu	Gln	Lys	Lys	Pro	Gly	Lys	Gly	Leu	Gly	Leu	Ser	
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att	gtt	ggt	aaa	aga	aac .	gat	act	gga	gta	ttt	gtg	tca	gac	att	gtc	3465
Ile	Val	Gly	Lys	Arg	Asn	Asp	Thr	Gly	Val	Phe	Val	Ser	Asp	Ile	Val	
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aaa	gga	gga	att	gca	gat	ссс	gat	gga	aga	ctg	atc	cag	gga	gac	cag	3513
Lys	Gly	Gly	Ile	Ala	Asp	Pro	Asp	Gly	Arg	Leu	Ile	Gln	Gly	Asp	Gln	

ata tta tt	g gtg aat	ggg gaa	gac gtt	cgt aat	t gcc tcc	caa ga	a gcg	3561
lle Leu Le	u Val Asn	Gly Glu	Asp Val	Arg Asn	n Ala Ser	Gln Gl	ı Ala	
1075		1080		108	15		1090	
•								
gtt gcc gc	t ttg cta	aag tgt	tcc cta	ggc aca	gta acc	ttg ga	gtt	3609
Val Ala Al	a Leu Leu	Lys Cys	Ser Leu	Gly Thr	Val Thr	Leu Gl	ı Val	
	1098	5		1100	,	110	5	
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gga aga at	c aaa gct	ggt cca	ttc cat	tca gag	agg agg	cca tc	caa	3657
Gly Arg Il	e Lys Ala	Gly Pro	Phe His	Ser Glu	Arg Arg	Pro Se	·Gln	
	1110		1115			1120		
acc agc ca	g gtg agt	gaa ggc	agc ctg	tct tct	ttc act	ttt cca	ctc	3705
Thr Ser Gl	n Val Ser	Glu Gly	Ser Leu	Ser Ser	Phe Thr	Phe Pro	Leu	
11	25		1130		113	5		
tct gga tc	c agt aca	tct gag	tca ctg	gaa agt	agc tca	aag aag	aat	3753
Ser Gly Se	r Ser Thr	Ser Glu	Ser Leu	Glu Ser	Ser Ser	Lys Lys	Asn	
1140		1145			1150			
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gca ttg gc	a tct gaa	ata cag	gga tta	aga aca	gtc gaa	atg aaa	aag	3801
Ala Leu Al	a Ser Glu	Ile Gln	Gly Leu	Arg Thr	Val Glu	Met Lys	Lys	
1155		1160		116	5		1170	
ggc cct ac	t gac tca	ctg gga	atc agc	atc gct	gga gga	gta gg	agc	3849

Gly Pro Thr Asp Ser Leu Gly Ile Ser Ile Ala Gly Gly Val Gly Ser

1175 1180 1185

				1175	5				1180)				1185	i	
cca	ctt	ggt	gat	gtg	cct	ata	ttt	att	gca	atg	atg	cac	cca	act	gga	3897
Pro	Leu	Gly	Asp	Val	Pro	Ιlе	Phe	Ile	Ala	Met	Met	His	Pro	Thr	Gly	
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gtt	gca	gca	cag	acc	caa	aaa	ctc	aga	gtt	ggg	gat	agg	att	gtc	acc	3945
Val	Ala	Ala	Gln	Thr	Gln	Lys	Leu	Arg	Val	Gly	Asp	Arg	Ile	Val	Thr .	
		1205	5				1210)				1215	·			
atc	tgt	ggc	aca	tcc	act	gag	ggc	atg	act	cac	acc	caa	gca	gtt	aac	3993
Ile	Cys	Gly	Thr	Ser	Thr	Glu	Gly	Met	Thr	His	Thr	Gln	Ala	Val	Asn	
	1220)				1225	1230)				
cta	ctg	aaa	aat	gca	tct	ggc	tcc	att	gaa	atg	cag	gtg	gtt	gct	gga	4041
Leu	Leu	Lys	Asn	Ala	Ser	Gly	Ser	Ile	Glu	Met	Gln	Val	Val	Ala	Gly	
1235	j				1240)	1245				i				1250	
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gga	gac	gtg	agt	gtg	gtc	aca	ggt	cat	cat	cag	gag	cct	gca	agt	tcc	4089
Gly	Asp	Val	Ser	Val	Val	Thr	Gly	His	His	Gln	Glu	Pro	Ala	Ser	Ser	
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agt ctt tct ttc act ggg ctg acg tca acc agt ata ttt cag gat gat

Ser Leu Ser Phe Thr Gly Leu Thr Ser Thr Ser Ile Phe Gln Asp Asp

1270 1275 1280

tta	gga	cct	cct	caa	tgt	aag	tct	att	aca	cta	gag	cga	gga	cca	gat	4185
Leu	Gly	Pro	Pro	Gln	Cys	Lys	Ser	Ile	Thr	Leu	Glu	Arg	Gly	Pro	Asp	
		128	5				129	0				1295	i			
ggc	tta	ggc	ttc	agt	ata	gtt	gga	gga	tat	ggc	agc	cct	cat	gga	gac	4233
Gly	Leu	Gly	Phe	Ser	Ile	Val	Gly	Gly	Туг	Gly	Ser	Pro	His	Gly	Asp	
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Leu	Pro	Ile	Tyr	Val	Lys	Thr	Val	Phe	Ala	Lys	Gly	Ala	Ala	Ser	Glu	
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Asp	Gly	Arg	Leu	Lys	Arg	Gly	Asp	Gln	Ile	Ile	Ala	Val	Asn	Gly	Gln	
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Ser	Leu	Glu	Gly	Val	Thr	His	Glu	Glu	Ala	Val	Ala	Ile	Leu	Lys	Arg	
			1350)				1355					1,360	ı		
aca	aaa	ggc	act	gtc	act	ttg	atg	gtt	ctc	tct	tgaa	ttgg	ct g	ccag	aattg	4430
Thr	Lys	Gly	Thr	Val	Thr	Leu	Met	Val	Leu	Ser						
		1365	i				1370	ı								
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aacc	aacc	ca a	cccc	tago	t ca	cctc	ctac	tgt	aaag	aga	atgc	actg	gt (ctga	caatt	4490
ttta	tgct	gt g	ttca	gccg	g gt	cttc	aaaa	. ctg	tagg	ggg	gaaa	taac	ac t	taag	tttct	4550
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ttttctcatc tagaaatgct ttccttactg acaacctaac atcattttc ttttctttt 4610
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Ala Gly Ile Gln His Ile Glu Leu Glu Lys Gly Ser Lys Gly Leu Gly

· **5**

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Phe Ser Ile Leu Asp Tyr Gln Asp Pro Ile Asp Pro Ala Ser Thr Val

20

25

30

Ile Ile Ile Arg Ser Leu Val Pro Gly Gly Ile Ala Glu Lys Asp Gly

35

40

45

Arg Leu Leu Pro Gly Asp Arg Leu Met Phe Val Asn Asp Val Asn Leu

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Glu Asn Ser Ser Leu Glu Glu Ala Val Glu Ala Leu Lys Gly Ala Pro
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Ser Gly Thr Val Arg Ile Gly Val Ala Lys

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Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser Arg Asp

35 40 45

Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu Glu Ser

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Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg Arg His

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Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr

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20 25 30

Gly Glu Val Met Arg Gly Ile Phe Ile Lys His Val Leu Glu Asp Ser

35 40 45

Pro Ala Gly Lys Asn Gly Thr Leu Lys Pro Gly Asp Arg Ile Val Glu

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Ala Pro Ser Gln Ser Glu Ser Glu Pro Glu Lys Ala Pro Leu Cys Ser

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Val Pro Pro Pro Pro Ser Ala Phe Ala Glu Met Gly Ser Asp His

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Gly Glu Leu His Met Ile Glu Leu Glu Lys Gly His Ser Gly Leu Gly

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Leu Ser Leu Ala Gly Asn Lys Asp Arg Ser Arg Met Ser Val Phe Ile

20 25 30

Val Gly Ile Asp Pro Asn Gly Ala Ala Gly Lys Asp Gly Arg Leu Gln

35 40 45

Ile Ala Asp Glu Leu Leu Glu Ile Asn Gly Gln Ile Leu Tyr Gly Arg

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Ser His Gln Asn Ala Ser Ser Ile Ile Lys Cys Ala Pro Ser Lys Val

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Lys Ile Ile Phe Ile Arg

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Ile Ala Ile Ser Glu Glu Asp Thr Leu Ser Gly Val Ile Ile Lys Ser

20 25 30

Leu Thr Glu His Gly Val Ala Ala Thr Asp Gly Arg Leu Lys Val Gly

35 40 4

Asp Gln Ile Leu Ala Val Asp Asp Glu Ile Val Val Gly Tyr Pro Ile

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Glu Lys Phe Ile Ser Leu Leu Lys Thr Ala Lys Met Thr Val Lys Leu

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Thr Ile His Ala

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Cys Asp Thr Leu Thr Ile Glu Leu Gln Lys Lys Pro Gly Lys Gly Leu

Gly Leu Ser Ile Val Gly Lys Arg Asn Asp Thr Gly Val Phe Val Ser

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Phe Ser Ile Val Gly Gly Tyr Gly Ser Pro His Gly Asp Leu Pro Ile

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15

Tyr Val Lys Thr Val Phe Ala Lys Gly Ala Ala Ser Glu Asp Gly Arg

35 40 45

Leu Lys Arg Gly Asp Gln Ile Ile Ala Val Asn Gly Gln Ser Leu Glu

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Gly Val Thr His Glu Glu Ala Val Ala Ile Leu Lys Arg Thr Lys Gly

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Thr Val Thr Leu Met Val Leu Ser

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Asp	Glu	Phe	Gly	Tyr	Ser	Trp	Lys	Asn	Ile	Arg	Glu	Arg	Tyr	Gly	Thr	
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Leu	Thr	Gly	Glu	Leu	His	Met	Ile	Glu	Leu	Glu	Lys	Gly	His	Ser	Gly	
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85				•	90					95	•				100	
00					30					J U						
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Gly	Arg	Ser	His	Gln	Asn	Ala	Ser	Ser	Ile	Ile	Lys	Cys	Ala	Pro	Ser	

105 110 115

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еr	Gly	Val	Ιle	Ile	Lys	Ser	Leu	Thr	Glu	His	Gly	Val	Ala	Ala	Thr	
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215 220 225

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Ile	Val	Val	Gly	Tyr	.Pro	Ile	Glu	Lys	Phe	Ile	Ser	Leu	Leu	Lys	Thr	
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Ala	Lys	Met	Thr	Val	Lys	Leu	Thr	Ile	His	Ala	Glu	Asn	Pro	Asp	Ser	-
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Gln	Ala	Val	Pro	Ser	Ala	Ala	Gly	Ala	Ala	Ser	Gly	Glu	Lys	Lys	Asn	
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Ser	Ser	Gln	Ser	Leu	Met	Val	Pro	Gln	Ser	Gly	Ser	Pro	Glu	Pro	Glu	
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310 315 320

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Asp	Thr	Leu	Leu	Gly	Ala	Phe	Ile	Ile	His	Glu	Val	Туг	Glu	Glu	Gly	
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Ala	Ala	Cys	Lys	Asp	Gly	Arg	Leu	Trp	Ala	Gly	Asp	Gln	Ile	Leu	Glu	
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Val	Asn	Gly	Ile	Asp	Leu	Arg	Lys	Ala	Thr	His	Asp	Glu	Ala	Ile	Asn	
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Ala	Gly	Pro	Phe	His	Ser	Glu	Arg	Årg	Pro	Ser	Gln	Thr	Ser	Gln	Val	
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Ser	Glu	Gly	Ser	Leu	Ser	Ser	Phe	Thr	Phe	Pro	Leu	Ser	Gly	Ser	Ser	
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Val Thr Leu Met Val Leu Ser

760

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e t ø	ata	gta	aaa	acc	att	ctø	cet	gga	ggs	pts	get	gat	rag	cat	999	287
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Val Ile Val Lys Thr Ile Leu Pro Gly Gly Val Ala Asp Gln His Gly

90

95

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Pro	Glu	Leu	Arg	Val	Asp	Ala	Ser	Thr	Gln	Lys	Gly	Glu	Glu	Ser	Glu	
l 6 0					165					170					175	
aca	ttt	gat	gta	gaa	ctc	act	aaa	aat	gtc	caa	gga	tta	gga	att	acc	575
ſhr	Phe	Asp	Val	Glu	Leu	Thr	Lys	Asn	Val	Gln	Gly	Leu	Gly	Ile	Thr	
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	•															
o t o	ctc	ctø		cta	ator	200	900	o o a	ator	220	C 2 C	o a a	000	020	ata	815
																010
V & 1	neu	reu		Leu	пес	Arg	Arg			Lys	AIII	Ulu			rea	
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Met	Ser	Arg	Glu	Asp	Val	Thr	Lys	Asp	Ala	Asp	Leu	Ser	Pro	Val	Asn	
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Ala	Ser	Ile	Ile	Lys	Glu	Asn	Tyr	Glu	Lys	Asp	Glu	Asp	Phe	Leu	Ser	
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Ser Thr Arg Asn Thr Asn Ile Leu Pro Thr Glu Glu Glu Gly Tyr Pro
305 310 315

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Ala	Ala	Leu	Leu	Thr	Lys	Trp	Gln	Arg	Ile	Met	Gly	Ile	Asn	Tyr	Glu	
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						His										1100
		ulj	110	741	uly		561	uly	цуз	Deц		061	Ulj	nop	UI U	
•	385					390					395					
																46.5
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cta ttg gaa gta aat ggc ata act tta ctt ggg gaa aat cac caa gat

Leu Leu Glu Val Asn Gly Ile Thr Leu Leu Gly Glu Asn His Gln Asp

400 405 410 415

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Суs	Arg	Arg	Thr	Val	Pro	Pro	Thr	Thr	Gln	Ser	Glu	Leu	Asp	Ser	Leu	
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Blu	Ala	Gly	Ile	Gln	His	I l e	Met	Leu	Glu	Lys	Gly	Ser	Lys	Gly	Leu	
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110					115					120					125	

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									•					Glu		
0.14	,,,,,,		01,	0.0	Dou	u.,	٠	1 110	· · · ·	U.1.1	414			014	01 ,	•
		160					165					170				
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190					195					200					205	
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- 4 -		- 4 -							4	_4_				_ 4.4		722
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Ile	Ser	Ile	Leu	Gln	Lys	Ala	Lys	Asp	Thr	Val	Gln	Leu	Val	Ile	Ala	
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			t aas													143
S N	V a.	l Se	r Lys		Ser	Phe	Glu		Thr	· Ile	Asn	Ile		Lys	Gly	
			35	į				40					45			
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			c cta													191
sn	Se	r Se	r Leu	Gly	Met	Thr	Val	Ser	Ala	Asn	Lys	Asp	Gly	Leu	Gly	

oosoene ne iloo

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0 4 4	ata				or 2.2	a + a	a + m	200	~~	a + +	++0	a t o		aat	at t	671
			aat													011
Arg	Leu		Asn	Gly	Glu	Val		Arg	Gly	11e	Phe	11e	Lys	HIS	Val	
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		50					55					60				
atg	atc	gtt	cga	agc	att	att	cat	gga	ggt	gcc	att	agt	cga	gat	ggc	239
Met	Ile	Val	Arg	Ser	Ile	Ile	His	Gly	Gly	Ala	Ile	Ser	Arg	Asp	Gly	
	65					70					75					
cgg	att	gcc	att	ggg	gac	tgc	atc	ttg	tcc	att	aat	gaa	gag	tct	acc	287
Arg	Ile	Ala	Ile	Gly	Asp	Cys	Ile	Leu	Ser	Ile	Asn	Glu	Glu	Ser	Thr	
80					85					90					95	
										,						
atc	agt	gta	acc	aat	gcc	cag	gca	cga	gct	atg	ttg	aga	aga	cat	tct	335
Ile	Ser	Val	Thr	Asn	Ala	Gln	Ala	Arg	Ala	Met	Leu	Arg	Arg	His	Ser	
				100					105					110		

ctc	att	ggc	cct	gac	ata	aaa	att	act	tat	gtg	cct	gca	gaa	cat	ttg	383
Leu	Ile	Gly	Pro	Asp	Ile	Lys	Ile	Thr	Tyr	Val	Pro	Ala	Glu	His	Leu	
			115					120					125			
												,				
gaa	gag	ttc	aaa	ata	agc	ttg	gga	caa	caa	tct	gga	aga	gta	atg	gca	431
Glu	Glu	Phe	Lys	Ile	Ser	Leu	Gly	Gln	Gln	Ser	Gly	Arg	Val	Met	Ala	
		130					135					140				
														٠		
ctg	gat	att	ttt	tct	tca	tac	act	ggc	aga	gac	att	cca	gaa	tta	·cca	479
Leu	Asp	Ile	Phe	Ser	Ser	Tyr	Thr	Gly	Arg	Asp	Ile	Pro	Glu	Leu	Pro	
	145		•			150					155					
						٠										
gag	cga	gaa	gag	gga	gag	ggt	gaa	gaa	agc	gaa	ctt	caa	aac	aca	gca	527
Glu	Arg	Glu	Glu	Gly	Glu	Gly	Glu	Glu	Ser	Glu	Leu	Gln	Asn	Thr	Ala	
160					165					170					175	
															•	
tat	agc	aat	tgg	aat	cag	ccc	agg	cgg	gtg	gaa	ctc	tgg	aga	gaa	cca	575
Tyr	Ser	Asn	Trp	Asn	Gln	Pro	Arg	Arg	Val	Glu	Leu	Trp	Arg	Glu	Pro	
				180					185					190		
agc				ggc		agc				gga	cga	ggg	atg	ggg	agt	623
Ser	Lys	Ser		Gly	Ile	Ser			Gly	Gly	Arg	Gly		Gly	Ser	
			195					200					205			
	cta															671
Arg	Leu	Ser	Asn	Gly	Glu	Val	Met	Arg	Gly	He	Phe	He	Lys	His	Val	

215

210

220

Leu Glu Asp Ser Pro Ala Gly Lys Asn Gly Thr Leu Lys Pro Gly Asp 225 230 235	
225 230 235	
aga atc gta gag gtg gat gga atg gac ctc aga gat gca agc cat gaa	767
Arg Ile Val Glu Val Asp Gly Met Asp Leu Arg Asp Ala Ser His Glu	
240 245 250 255	
caa gct gtg gaa gcc att cgg aaa gca ggc aac cct gta gtc ttt atg	815
Gln Ala Val Glu Ala Ile Arg Lys Ala Gly Asn Pro Val Val Phe Met	
260 265 270	
gta tag ago ttt att aca gao caa ggg cao coa gto agt cag agt cag	863
Val	
275 280 285	
ag .	865

<210> 81

<211> 965

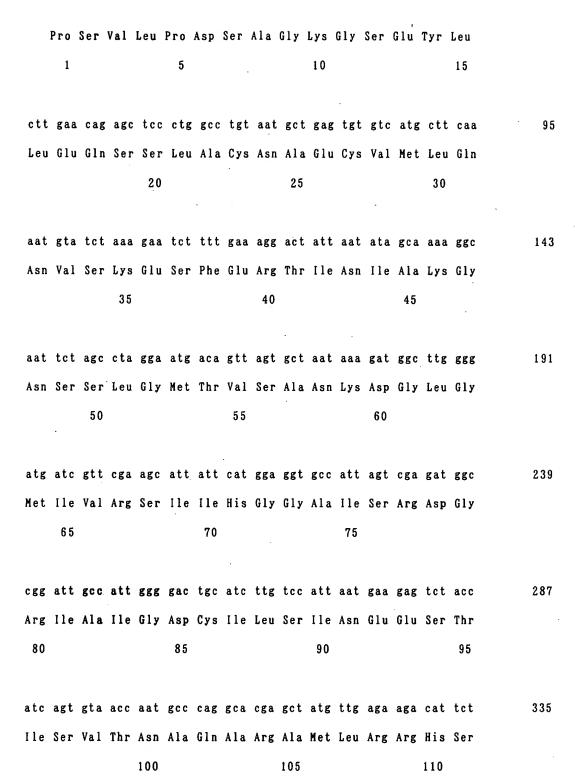
<212> DNA

<213> Homo sapience

<400> 81

tt cct tct gtg cta ccc gat tca gct gga aag ggc tct gag tac ctg

47



ctc	att	ggc	cct	gac	ata	aaa	att	act	tat	gtg	cct	gca	gaa	cat	ttg	38
Leu	Ile	Gly	Pro	Asp	Ile	Lys	Ile	Thr	Tyr	Val	Pro	Ala	Glu	His	Leu	
			115					120					125	•		
gaa	gag	ttc	aaa	ata	agc	ttg	gga	caa	caa	tct	gga	aga	gta	atg	gca	431
Glu	Glu	Phe	Lys	Ile	Ser	Leu	Gly	Gln	Gln	Ser	Gly	Arg	Val	Met	Ala	
		130					135					140				
ctg	gat	att	ttt	tct	tca	tác	act	ggc	aga	gac	att	cca	gaa	tta	cca	479
Leu	Asp	Ile	Phe	Ser	Ser	Tyr	Thr	Gly	Arg	Asp	Ile	Pro	Glu	Leu	Pro	
	145					150					155					
gag	cga	gaa	gag	gga	gag	ggt	gaa	gaa	agc	gaa	ctt	caa	aac	aca	gca	5 2 7
Glu	Arg	Glu	Glu	Gly	Glu	Gly	Glu	Glu	Ser	Glu	Leu	Gln	Asn	Thr	Ala	
160					165					170					175	
			•													
tat	agc	aat	tgg	aat	cag	ссс	agg	cgg	gtg	gaa	ctc	tgg	aga	gaa	cca	575
Tyr	Ser	Asn	Trp	Asn	Gln	Pro	Arg	Arg	Val	Glu	Leu	Trp	Arg	Glu	Pro	
				180					185					190		
			·							•						
agc	aaa	tcc	tta	ggc	atc	agc	att	gtt	ggt	gga	cga	ggg	atg	ggg	agt	623
Ser	Lys	Ser	Leu	Gly	Ile	Ser	Ile	Val	Gly	Gly	Arg	Gly	Met	Gly	Ser	
			195					200					205			
cgg	cta	agc	aat	gga	gaa	gtg	atg	agg	ggc	att	ttc	atc	aaa	cat	gtt	671
Arg	Leu	Ser	Asn	Gly	Glu	Val	Met	Arg	Gly	Ile	Phe	Ile	Lys	His	Val	
		210					215					220				

ctg	gaa	gat	agt	cca	gct	ggc	aaa	aat	gga	acc	ttg	aaa	cct	gga	gat	719
Leu	Glu	Asp	Ser	Pro	Ala	Gly	Lys	Asn	Gly	Thr	Leu	Lys	Pro	Gly	Asp	
	225					230					235					
							-									
aga	atc	gta	gag	gtg	gat	gga	atg	gac	ctc	aga	gat	gca	agc	cat	gaa	767
Arg	Ile	Val	Glu	Val	Asp	Gly	Met	Asp	Leu	Arg	Asp	Ala	Ser	His	Glu	
240					245					250					255	
caa	gct	gtg	gaa	gcc	att	cgg	aaa	gca	ggc	aac	cct	gta	gtc	ttt	atg	815
Gln	Ala	Val	Glu	Ala	I l e	Arg	Lys	Ala	Gly	Asn	Pro	Val	Val	Phe	Met	
				260					265					270		
gta	cag	agc	att	ata	aac	aga	cca	agg	aaa	tcc	cct	ttg	cct	tcc	ttg	863
Val	Gln	Ser	Ιlе	Ile	Asn	Arg	Pro	Arg	Lys	Ser	Pro	Leu	Pro	Ser	Leu	
			275			٠		280					285			
ctg	cac	aac	ctt	tac	cct	aag	tac	aac	ttc	agc	agc	act	aac	cca	ttt	911
Leu	His	Asn	Leu	Tyr	Pro	Lys	Tyr	Asn	Phe	Ser	Ser	Thr	Asn	Pro	Phe	
		290					295					300				
														-		
gct	gac	tct	cta	caa	atc	aac	gcc	gac	aag	gca	ссс	agt	cag	tca	gag	959
Ala	Asp	Ser	Leu	Gln	Ile	Asn	Ala	Asp	Lys	Ala	Pro	Ser	Gln	Ser	Glu	
	305			٠		310					315					
									-							
tca	gag															965
800	61															

<210> 82

<211> 2000

<212> PRT

<213> Homo sapience

<400> 82

Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala

Ala Glu Arg Leu Gln Thr Lys Leu Arg Glu Arg Gly Asp Val Ala Asn

Glu Asp Lys Leu Ser Leu Leu Lys Ser Val Leu Gln Ser Pro Leu Phe

Ser Gln Ile Leu Ser Leu Gln Thr Ser Val Gln Gln Leu Lys Asp Gln

Val Asn Ile Ala Thr Ser Ala Thr Ser Asn Ile Glu Tyr Ala His Val

Pro His Leu Ser Pro Ala Val Ile Pro Thr Leu Gln Asn Glu Ser Phe

Leu Leu Ser Pro Asn Asn Gly Asn Leu Glu Ala Leu Thr Gly Pro Gly

Ile Pro His Ile Asn Gly Lys Pro Ala Cys Asp Glu Phe Asp Gln Leu

Ile Lys Asn Met Ala Gln Gly Arg His Val Glu Val Phe Glu Leu Leu

Lys Pro Pro Ser Gly Gly Leu Gly Phe Ser Val Val Gly Leu Arg Ser

			145					150					155		
Glu	Asn	Arg	Gly	Glu	Leu	Gly	Ile	Phe	Val	Gln	Glu	Ile	Gln	Glu	Gly
		160					165					170			
Ser	Val	Ala	His	Arg	Asp	Gly	Arg	Leu	Lys	Glu	Thr	Asp	Gln	Ile	Leu
	175					180					185				
Ala	Ile	Asn	Gly	Gln	Ala	Leu	Asp	Gln	Thr	Ile	Thr	His	Gln	Gln	Ala
190					195					200					205
Ile	Ser	Ile	Leu	Gln	Lys	Ala	Lys	Asp	Thr	Val	Gln	Leu	Val	Ile	Ala
				210					215					220	
Arg	Gly	Ser	Leu	Pro	Gln	Leu	Val	Ser	Pro	Ιle	Val	Ser	Arg	Ser	Pro
			225					230					235		
Ser	Ala	Ala	Ser	Thr	Ile	Ser	Ala	His	Ser	Asn	Pro	Val	His	Trp	Gln
		240		•			245					250			
His	Met	Glu	Thr	Ile	Glu	Leu	Val	Asn	Asp	Gly	Ser	Gly	Leu	Gly	Phe
	255					260					265				
Gly	Ile	Ile	Gly	Gly	Lys	Ala	Thr	Gly	Val	Ile	Val	Lys	Thr	Ile	Leu
270					275					280					285
Pro	Gly	Gly	Val	Ala	Asp	Gln	His	Gly	Arg	Leu	Cys	Ser	Gly	Asp	His
				290					295					300	,
Ile	Leu	Lys	Ile	Gly	Asp	Thr	Asp	Leu	Ala	Gly	Met	Ser	Ser	Glu	Gln
			305					310					315		
Val	Ala	Gln	Val	Leu	Arg	Gln	Cys	Gly	Asn	Arg	Val	Lys	Leu	Met	Ile
		320					325	•				330			
Ala	Arg	Ser	Ala	Ile	Glu	Glu	Arg	Thr	Ala	Pro	Thr	Ala	Leu	Gly	Ile
	335					340					345				
ľhr	Leu	Ser	Ser	Ser	Pro	Thr	Ser	Thr	Pro	Glu	Leu	Arg	Val	Asp	Ala
350					355					360					365

Ser Thr Gln Lys Gly Glu Glu Ser Glu Thr Phe Asp Val Glu Leu Thr Lys Asn Val Gln Gly Leu Gly Ile Thr Ile Ala Gly Tyr Ile Gly Asp Lys Lys Leu Glu Pro Ser Gly Ile Phe Val Lys Ser Ile Thr Lys Ser Ser Ala Val Glu His Asp Gly Arg Ile Gln Ile Gly Asp Gln Ile Ile Ala Val Asp Gly Thr Asn Leu Gln Gly Phe Thr Asn Gln Gln Ala Val Glu Val Leu Arg His Thr Gly Gln Thr Val Leu Leu Thr Leu Met Arg Arg Gly Met Lys Gln Glu Ala Glu Leu Met Ser Arg Glu Asp Val Thr Lys Asp Ala Asp Leu Ser Pro Val Asn Ala Ser Ile Ile Lys Glu Asn Tyr Glu Lys Asp Glu Asp Phe Leu Ser Ser Thr Arg Asn Thr Asn Ile Leu Pro Thr Glu Glu Glu Gly Tyr Pro Leu Leu Ser Ala Glu Ile Glu Glu Ile Glu Asp Ala Gln Lys Gln Glu Ala Ala Leu Leu Thr Lys Trp Gln Arg Ile Met Gly Ile Asn Tyr Glu Ile Val Val Ala His Val Ser Lys Phe Ser Glu Asn Ser Gly Leu Gly Ile Ser Leu Glu Ala Thr Val Gly His His Phe Ile Arg Ser Val Leu Pro Glu Gly Pro Val Gly His

	575					580					585				
Ser	Gly	Lys	Leu	Phe	Ser	Gly	Asp	Glu	Leu	Leu	Glu	Val	Asn	Gly	Ile
590					595					600					605
Thr	Leu	Leu	Gly	Glu	Asn	His	Gln	Asp	Val	Val	Asn	Ile	Leu	Lys	Glu
				610					615					620	
Leu	Pro	Ile	Glu	Val	Thr	Met	Val	Cys	Cys	Arg	Arg	Thr	Val	Pro	Pro
			625					630					635		
Thr	Thr	Gln	Ser	Glu	Leu	Asp	Ser	Leu	Asp	Leu	Cys	Asp	Ile	Glu	Leu
		640					645					650			
Thr	Glu	Lys	Pro	His	Val	Asp	Leu	Gly	Glu	Phe	Ile	Gly	Ser	Ser	Glu
	655					660		•			665				
Pro	Glu	Asp	Pro	Val	Leu	Ala	Met	Thr	Asp	Ala	Gly	Gln	Ser	Thr	Glu
670					675					680				-	685
Glu	Val	Gln	Ala	Pro	Leu	Ala	Met	Trp	Glu	Ala	Gly	Ile	Gln	His	Ile
				690					695					700	
Met	Leu	Glu	Lys	Gly	Ser	Lys	Gly	Leu	Gly	Phe	Ser	Tle	Leu	Asp	Туг
			705					710					715		
Gln	Asp	Pro	Ile	Asp	Pro	Ala	Ser	Thr	Val	Ile	Ile	Ile	Arg	Ser	Leu
		720					725					730	•		
Val	Pro	G l'y	Gly	Ile	Ala	Glu	Lys	Asp	Gly	Arg	Leu	Leu	Pro	Gly	Asp
	735	43	3			740					745				
Arg	Leu	Met	Phe	Val	Asn	Asp	Val	Asn	Leu	Glu	Asn	Ser	Ser	Leu	Glu
750					755					760					765
Glu	Ala	Val	Glu	Ala	Leu	Lys	Gly	Ala	Pro	Ser	Gly	Thr	Val	Arg	Ile
				770					775					780	
Gly	Val	Ala	Lys	Pro	Leu	Pro	Leu	Ser	Pro	Glu	Glu	Gly	Tyr	Val	Ser
			785					700					705		

Ala Lys Glu Asp Ser Phe Leu Tyr Pro Pro His Ser Cys Glu Glu Ala Gly Leu Ala Asp Lys Pro Leu Phe Arg Ala Asp Leu Ala Leu Val Gly Thr Asn Asp Ala Asp Leu Val Asp Glu Ser Thr Phe Glu Ser Pro Tyr Ser Pro Glu Asn Asp Ser Ile Tyr Ser Thr Gln Ala Ser Ile Leu Ser Leu His Gly Ser Ser Cys Gly Asp Gly Leu Asn Tyr Gly Ser Ser Leu Pro Ser Ser Pro Pro Lys Asp Val Ile Glu Asn Ser Cys Asp Pro Val Leu Asp Leu His Met Ser Leu Glu Glu Leu Tyr Thr Gln Asn Leu Leu Glu Arg Gln Asp Glu Asn Thr Pro Ser Val Asp Ile Ser Met Gly Pro Ala Ser Gly Phe Thr Ile Asn Asp Tyr Thr Pro Ala Asn Ala Ile Glu Gln Gln Tyr Glu Cys Glu Asn Thr Ile Val Trp Thr Glu Ser His Leu Pro Ser Glu Val Ile Ser Ser Ala Glu Leu Pro Ser Val Leu Pro Asp Ser Ala Gly Lys Gly Ser Glu His Leu Leu Glu Gln Ser Ser Leu Ala Cys Asn Ala Glu Cys Val Met Leu Gln Asn Val Ser Lys Glu Ser Phe Glu Arg Thr Ile Asn Ile Ala Lys Gly Asn Ser Ser Leu Gly Met Thr

Val Ser Ala Asn Lys Asp Gly Leu Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu Glu Ser Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg Arg His Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr Val Pro Ala Glu His Leu Glu Glu Phe Lys Ile Ser Leu Gly Gln Gln Ser Gly Arg Val Met Ala Leu Asp Ile Phe Ser Ser Tyr Thr Gly Arg Asp Ile Pro Glu Leu Pro Glu Arg Glu Glu Gly Glu Gly Glu Glu Ser Glu Leu Gln Asn Thr Ala Tyr Ser Asn Trp Asn Gln Pro -1145 Arg Arg Val Glu Leu Trp Arg Glu Pro Ser Lys Ser Leu Gly Ile Ser Ile Val Gly Gly Arg Gly Met Gly Ser Arg Leu Ser Asn Gly Glu Val Met Arg Gly Ile Phe Ile Lys His Val Leu Glu Asp Ser Pro Ala Gly Lys Asn Gly Thr Leu Lys Pro Gly Asp Arg Ile Val Glu Ala Pro Ser Gln Ser Glu Ser Glu Pro Glu Lys Ala Pro Leu Cys Ser Val Pro Pro

Pro Pro Pro Ser Ala Phe Ala Glu Met Gly Ser Asp His Thr Gln Ser Ser Ala Ser Lys Ile Ser Gln Asp Val Asp Lys Glu Asp Glu Phe Gly Tyr Ser Trp Lys Asn Ile Arg Glu Arg Tyr Gly Thr Leu Thr Gly Glu Leu His Met Ile Glu Leu Glu Lys Gly His Ser Gly Leu Gly Leu Ser Leu Ala Gly Asn Lys Asp Arg Ser Arg Met Ser Val Phe Ile Val Gly Ile Asp Pro Asn Gly Ala Ala Gly Lys Asp Gly Arg Leu Gln Ile Ala Asp Glu Leu Leu Glu Ile Asn Gly Gln Ile Leu Tyr Gly Arg Ser His Gln Asn Ala Ser Ser Ile Ile Lys Cys Ala Pro Ser Lys Val Lys Ile Ile Phe Ile Arg Asn Lys Asp Ala Val Asn Gln Met Ala Val Cys Pro Gly Asn Ala Val Glu Pro Leu Pro Ser Asn Ser Glu Asn Leu Gln Asn . 1375 Lys Glu Thr: Glu Pro Thr Val Thr Thr Ser Asp Ala Ala Val Asp Leu Ser Ser Phe Lys Asn Val Gln His Leu Glu Leu Pro Lys Asp Gln Gly Gly Leu Gly Ile Ala Ile Ser Glu Glu Asp Thr Leu Ser Gly Val Ile Ile Lys Ser Leu Thr Glu His Gly Val Ala Ala Thr Asp Gly Arg Leu

		1440)				144	5				1450)		
Lys	Val	Gly	Asp	Gln	Ile	Leu	Ala	Val	Asp	Asp	Glu	Ile	Val	Val	Gly
	145	5				1460)				1465	i			
Tyr	Pro	Ile	Glu	Lys	Phe	Ile	Ser	Leu	Leu	Lys	Thr	Ala	Lys	Met	Thr
1470)				147	5				1480)				1485
Val	Lys	Leu	Thr	Ile	His	Ala	Glu	Asn	Pro	Asp	Ser	Gln	Ala	Val	Pro
				1490)				1495	5				1500)
Ser	Ala	Ala	Gly	Ala	Ala	Ser	Gly	Glu	Lys	Lys	Asn	Ser	Ser	Gln	Ser
			1505	5				1510)				1515	j	
Leu	Met	Val	Pro	Gln	Ser	Gly	Ser	Pro	Glu	Pro	Glu	Ser	Ile	Arg	Asn
	J	1520 Arg Ser Ser Th					1525	i				1530)		
ſhr	Ser	Arg	Ser	Ser	Thr	Pro	Ala	Ile	Phe	Ala	Ser	Asp	Pro	Ala	Thr
	1535	i				1540)				1545				
Cys	Pro	I 1 e	Ile	Pro	Gly.	Cys	Glu	Thr	Thr	Ile	Glu	Ile	Ser	Lys	Gly
1550)				1555	;		,		1560					1565
lrg	Thr	Gly	Leu	Gly	Leu	Ser	Ile	Val	Gly	Gly	Ser	Asp	Thr	Leu	Leu
				1570) ~				1575					1580	ì
ly	Ala	Phe	Ile	Ile	His	G 1 u	Val	Tyr	Glu	Glu	Gly	Ala	Ala	Cys	Lys
			1585					1590)				1595		
sp	Gly	Arg	Leu	Trp	Ala	Gly	Asp	Gln	Ile	Leu	Glu	Val	Asn	Gly	Ile
		1600					1605					1610			
sp	Leu	Arg	Lys	Ala	Thr	His	Asp	Glu	Ala	Ile	Asn	Val	Leu	Arg	Gln
	1615					1620					1625				
hr	Pro	Gln	Arg	Val	Arg	Leu	Thr	Leu	Tyr	Arg	Asp	Glu	Ala	Pro	Tyr
630					1635					1640			•		1645
уs	Glu	Glu	Glu	Val	Cys	Asp	Thr	Leu	Thr	Ile	Glu	Leu	Gln	Lys	Lys
				1650					1655					1660	

Pro Gly Lys Gly Leu Gly Leu Ser Ile Val Gly Lys Arg Asn Asp Thr Gly Val Phe Val Ser Asp Ile Val Lys Gly Gly Ile Ala Asp Pro Asp Gly Arg Leu Ile Gln Gly Asp Gln Ile Leu Leu Val Asn Gly Glu Asp Val Arg Asn Ala Ser Gln Glu Ala Val Ala Ala Leu Leu Lys Cys Ser Leu Gly Thr Val Thr Leu Glu Val Gly Arg Ile Lys Ala Gly Pro Phe His Ser Glu Arg Arg Pro Ser Gln Thr Ser Gln Val Ser Glu Gly Ser Leu Ser Ser Phe Thr Phe Pro Leu Ser Gly Ser Ser Thr Ser Glu Ser Leu Glu Ser Ser Lys Lys Asn Ala Leu Ala Ser Glu Ile Gln Gly Leu Arg Thr Val Glu Met Lys Lys Gly Pro Thr Asp Ser Leu Gly Ile Ser Ile Ala Gly Gly Val Gly Ser Pro Leu Gly Asp Val Pro Ile Phe Ile Ala Met" Met His Pro Thr Gly Val Ala Ala Gln Thr Gln Lys Leu Arg Val Gly Asp Arg Ile Val Thr Ile Cys Gly Thr Ser Thr Glu Gly Met Thr His Thr Gln Ala Val Asn Leu Leu Lys Asn Ala Ser Gly Ser Ile Glu Met Gln Val Val Ala Gly Gly Asp Val Ser Val Val Thr Gly

. ..

1880 1885 1870 1875 His His Gln Glu Pro Ala Ser Ser Ser Leu Ser Phe Thr Gly Leu Thr 1895 1900 1890 Ser Thr Ser Ile Phe Gln Asp Asp Leu Gly Pro Pro Gln Cys Lys Ser 1905 1910 1915 lle Thr Leu Glu Arg Gly Pro Asp Gly Leu Gly Phe Ser Ile Val Gly 1925 1930 1920 Gly Tyr Gly Ser Pro His Gly Asp Leu Pro Ile Tyr Val Lys Thr Val 1935 1940 1945 Phe Ala Lys Gly Ala Ala Ser Glu Asp Gly Arg Leu Lys Arg Gly Asp 1950 1955 1960 1965 Gln Ile Ile Ala Val Asn Gly Gln Ser Leu Glu Gly Val Thr His Glu 1975 1980 1970 Glu Ala Val Ala Ile Leu Lys Arg Thr Lys Gly Thr Val Thr Leu Met 1985 1990 1995 .Val Leu Ser 2000

<210> 83

<211> 2070 -

<212> PRT

<213> Homo sapience

<400> 83

Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala 1 5 10

Ala Glu Arg Leu Gln Thr Lys Leu Arg Glu Arg Gly Asp Val Ala Asn

	15					20					25				
Glu	Asp	Lys	Leu	Ser	Leu	Leu	Lys	Ser	Val	Leu	Gln	Ser	Pro	Leu	Phe
30					35				•	40					45
Ser	Gln	Ile	Leu	Ser	Leu	G1 n	Thr	Ser	Val	Gln	Gln	Leu	Lys	Asp	Gln
				50					55					60	
Val	Asn	Ile	Ala	Thr	Ser	Ala	Thr	Ser	Asn	lle	Glu	Tyr	Ala	His	Val
			65					70					75		
Pro	His	Leu	Ser	Pro	Ala	Val	Ile	Pro	Thr	Leu	Gln	Asn	Glu	Ser	Phe
		80					85					90			
Leu	Leu	Ser	Pro	Asn	Asn	Gly	Asn	Leu	Glu	Ala	Leu	Thr	Gly	Pro	Gly
	95					100					105				
Ile	Pro	His	Ile	Asn	Gly	Lys	Pro	Ala	Cys	Asp	Glu	Phe	Asp	Gln	Leu
110					115					120					125
Ile	Lys	Asn	Met	Ala	Gln	Gly	Arg	His	Val	Glu	Val	Phe	Glu	Leu	Leu
				130					135					140	
Lys	Pro	Pro	Ser	Gly	Gly	Leu	Gly	Phe	Ser	Val	Val	Gly	Leu	Arg	Ser
			145					150					155		
Glu	Asn	Arg	Gly	Glu	Leu	Gly	Ile	Phe	Val	Gln	Glu	Ile	Gln	Glu	Gly
		160					165					170			
Ser	Val	Ala	His	Arg	Asp	Gly	Arg	Leu	Lys	Glu	Thr	Asp	Gln	Ile	Leu
	175	* •	-			180					185				
Ala	Ile	Asn	Gly	Gln	Ala	Leu	Asp	Gln	Thr	Ile	Thr	His	Gln	Gln	Ala
190					195					200					205
Ile	Ser	Ile	Leu	G1n	Lys	Ala	Lys	Asp	Thr	Val	Gln	Leu	Val	Ile	Ala
				210					215					220	
Arg	Gly	Ser	Leu	Pro	Gln	Leu	Val	Ser	Pro	Ile	Val	Ser	Arg	Ser	Pro
			225					230					235		

Ser Ala Ala Ser Thr Ile Ser Ala His Ser Asn Pro Val His Trp Gln His Met Glu Thr Ile Glu Leu Val Asn Asp Gly Ser Gly Leu Gly Phe Gly Ile Ile Gly Gly Lys Ala Thr Gly Val Ile Val Lys Thr Ile Leu Pro Gly Gly Val Ala Asp Gln His Gly Arg Leu Cys Ser Gly Asp His lle Leu Lys Ile Gly Asp Thr Asp Leu Ala Gly Met Ser Ser Glu Gln Val Ala Gln Val Leu Arg Gln Cys Gly Asn Arg Val Lys Leu Met Ile Ala Arg Ser Ala Ile Glu Glu Arg Thr Ala Pro Thr Ala Leu Gly Ile Thr Leu Ser Ser Ser Pro Thr Ser Thr Pro Glu Leu Arg Val Asp Ala Ser Thr Gln Lys Gly Glu Glu Ser Glu Thr Phe Asp Val Glu Leu Thr Lys Asn Val Gln Gly Leu Gly Ile Thr Ile Ala Gly Tyr Ile Gly Asp Lys Lys Leu, Glu Pro Ser Gly Ile Phe Val Lys Ser Ile Thr Lys Ser Ser Ala Val Glu His Asp Gly Arg Ile Gln Ile Gly Asp Gln Ile Ile Ala Val Asp Gly Thr Asn Leu Gln Gly Phe Thr Asn Gln Gln Ala Val Glu Val Leu Arg His Thr Gly Gln Thr Val Leu Leu Thr Leu Met Arg

				450					455					460	
Arg	Gly	Met	Lys	Gln	Glu	Ala	Glu	Leu	Met	Ser	Arg	Glu	Asp	Val	Thr
			465					470					475		
Lys	Asp	Ala	Asp	Leu	Ser	Pro	Val	Asn	Ala	Ser	Ile	Ile	Lys	Glu	Asn
		480					485		•			490			
Tyr	Glu	Lys	Asp	Glu	Asp	Phe	Leu	Ser	Ser	Thr	Arg	Asn	Thr	Asn	Ile
	495					500					505				
Leu	Pro	Thr	Glu	Glu	Glu	Gly	Tyr	Pro	Leu	Leu	Ser	Ala	Glu	Ile	Glu
510					515					520					525
Glu	Ile	Glu	Asp	Ala	Gln	Lys	Gln	Glu	Ala	Ala	Leu	Leu	Thr	Lys	Trp
				530					535					540	
Gln	Arg	Ile	Met	Gly	Ile	Asn	Tyr	Glu	I 1 e	Val	Val	Ala	His	Val	Ser
			545					550					555		
Lys	Phe	Ser	Glu	Asn	Ser	Gly	Leu	Gly	Ile	Ser	Leu	Glu	Ala	Thr	Val
		56Q					565					570			
Gly	His	His	Phe	Ile	Arg	Ser	Val	Leu	Pro	Glu	Gly	Pro	Val	Gly	His
	575					580					585				
Ser	Gly	Lys	Leu	Phe	Ser	Gly	Asp	Glu	Leu	Leu	Glu	Val	Asn	Gly	Ile
590					595					600					605
Thr	Leu	Leu	61y	Glu	Asn	His	Gln	Asp	Val	Val	Asn	Πle	Leu	Lys	Glu
		4	Mir.	610					615					620	•
Leu	Pro	Ile	Glu	Val	Thr	Met	Val	Cys	Сув	Arg	Arg	Thr	Val	Pro	Pro
			625					630					635		
Thr	Thr	Gln	Ser	Glu	Leu	Asp	Ser	Leu	Asp	Leu	Cys	Asp	Ile	Glu	Leu
		640					645		•		-	650			
Thr	Glu	Lys	Pro	His	Val	Asp	Leu	Gly	Glu	Phe	Ile	Gly	Ser	Ser	Glu
	655			•		660					665				

Pro	Glu	Asp	Pro	Val	Leu	Ala	Met	Thr	Asp	Ala	Gly	Gln	Ser	Thr	Glu
670					675					680					685
Glu	Val	Gln	Ala	Pro	Leu	Ala	Met	Trp	Glu	Ala	Gly	Ile	Gln	His	Ιlе
				690					695					700	
Met	Leu	Glu	Lys	Gly	Ser	Lys	Gly	Leu	Gly	Phe	Ser	Ile	Leu	Asp	Tyr
			705					710					715		
Gln	Asp	Pro	Ile	Asp	Pro	Ala	Ser	Thr	Val	Ile	Ile	Ile	Arg	Ser	Leu
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Val	Pro	Gly	Gly	Ile	Ala	Glu	Lys	Asp	Gly	Arg	Leu	Leu	Pro	Gly	Asp
	735					740					745				
Arg	Leu	Met	Phe	Val	Asn	Asp	Val	Asn	Leu	Glu	Asn	Ser	Ser	Leu	Glu
750					755					760			÷		765
Glu	Ala	Val	Glu	Ala	Leu	Lys	Gly	Ala	Pro	Ser	Gly	Thr	Val	Arg	ile
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Gly	Val	Ala	Lys	Pro	Leu	Pro	Leu	Ser	Pro	Glu	Glu	Gly	Tyr	Val	Ser
			785					790					795		
Ala	Lys	Glu	Asp	Ser	Phe	Leu	Tyr	Pro	Pro	His	Ser	Cys	Glu	Glu	Ala
		800					805					810			
Gly	Leu	Ala	Asp	Lys	Pro	Leu	Phe	Arg	Ala	Asp	Leu	Ala	Leu	Val	Gly
	815	4 % - 2 m 4 %	12			820					825				
Thr	Asn	Asp	Ala	Asp	Leu	Val	Asp	Glu	Ser	Thr	Phe	Glu	Ser	Pro	Tyr
830					835				ě	840					845
Ser	Pro	Glu	Asn	Asp	Ser	Ile	Tyr	Ser	Thr	Gln	Ala	Ser	I 1 e	Leu	Ser
				850					855					860	
Leu	His	Gly	Ser	Ser	Cys	Gly	Asp	Gly	Leu	Asn	Tyŗ	Gly	Ser	Ser	Leu
			865					870					875		
Pro	Ser	Ser	Pro	Pro	Ī. v g	Asn	Val	Tle	Gln	Agn	Ser	Cvs	Asn	Pro	Va 1

		880					885					890			
Leu	Asp	Leu	His	Met	Ser	Leu	Glu	Glu	Leu	Tyr	Thr	Gln	Asn	Leu	Leu
	895					900					905				
Glu	Arg	Gln	Asp	Glu	Asn	Thr	Pro	Ser	Val	Asp	Ile	Ser	Met	Gly	Pro
910					915					920					925
Ala	Ser	Gly	Phe	Thr	Ile	Asn	Asp	Tyr	Thr	Pro	Ala	Asn	Ala	Ile	Glu
		•		930		•			935					940	
Gln	Gln	Tyr	Glu	Cys	Glu	Asn	Thr	Ile	Val	Trp	Thr	Glu	Ser	His	Leu
			945					950					955		
Pro	Ser	Glu	Val	I l·e	Ser	Ser	Ala	Glu	Leu	Pro	Ser	Val	Leu	Pro	Asp
		960					965			•		970			
Ser	Ala	G1y	Lys	Gly	Ser	Glu	Tyr	Leu	Leu	Glu	Gln	Ser	Ser	Leu	Ala
	975					980					985				•
ys	Asn	Ala	Glu	Cys	Val	Met	Leu	Gln	Asn	Val	Ser	Lys	Glu	Ser	Phe
90					995					1000					100
lu	Arg	Thr	Ile	Asn	Ile	Ala	Lys	Gly	Asn	Ser	Ser	Leu	Gly	Met	Thr
~				1010)				1015	i			-	1020	
al	Ser	Ala	Asn	Lys	Asp	Gly	Leu	Gly	Met	Ile	Val	Arg	Ser	Ile	Ile
			1025					1030)				1035		
lis	Gly	Gly	Ala	Ile	Ser	Arg	Asp	Gly	Arg	Ile	Ala	Ile	Gly	Asp	Cys
		1040	; • !.				1045					1050			
l e	Leu	Ser	Ile	Asn	Glu	Glu	Ser	Thr	Ile	Ser	Val	Thr	Asn	Ala	Gln
	1055					1060				•	1065				
la	Arg	Ala	Met	Leu	Arg	Arg	His	Ser	Leu	Ile	Gly	Pro	Asp	Ile	Lys
070)				1075					1080					108
le	Thr	Tyr	Val	Pro	Ala	Glu	His	Leu	Glu	Glu	Phe	Lys	Ile	Ser	Leu
				1090					1095					1100	

Gly	Gln	Gln	Ser	Gly	Arg	Val	Met	Ala	Leu	Asp	Ile	Phe	Ser	Ser	Туг
			110	5				111	0				1115	ő	
Thr	Gly	Arg	Asp	Ile	Pro	Glu	Leu	Pro	Glu	Arg	Glu	Glu	Gly	Glu	Gly
		112	0				112	5		•		1130	0		
Glu	Glu	Ser	Glu	Leu	Gln	Asn	Thr	Ala	Туг	Ser	Asn	Trp	Asn	Gln	Pro
	113	5				1140	0				1145	5 '			
Arg	Arg	Val	Glu	Leu	Trp	Arg	Glu	Pro	Ser	Lys	Ser	Leu	Gly	Ile	Ser
115	0				115	5				1160)				1165
Ile	Val	Gly	Gly	Arg	Gly	Met	Gly	Ser	Arg	Leu	Ser	Asn	Gly	Glu	Val
				1170)				1175	i				1180)
Met	Arg	Gly	Ile	Phe	Ile	Lys	His	Val	Leu	Glu	Asp	Arg	Pro	Ála	Gly
			1185	5				1190)				1195	i	
Lys	Asn	Gly	Thr	Leu	Lys	Pro	Gly	Asp	Arg	Ile	Val	Glu	Val	Asp	Gly
		1200)				1205	j				1210)		
Met	Asp	Leu	Arg	Asp	Ala	Ser	His	Glu	Gln	Ala	Val	Glu	Ala	Ile	Arg
	1215	i	•			1220)			•	1225	i			
Lys	Ala	Gly	Asn	Pro	Val	Val	Phe	Met	Val	Gln	Ser	Ile	Ile	Asn	Arg
1230)				1235	5				1240)				1245
Pro	Arg	Ĺys	Ser	Pro	Leu	Pro	Ser	Leu	Leu	His	Asn	Leu	Tyr	Pro	Lys
		- F		1250)				1255	;				1260	ı
Tyr	Asn	Phe	Ser	Ser	Thr	Asn	Pro	Phe	Ala	Asp	Ser	Leu	Gln	Ile	Asn
			1265	i				.1270)				1275		
Ala	Asp	Lys	Ala	Pro	Ser	Gln	Ser	Glu	Ser	Glu	Pro	Glu	Lys	Ala	Pro
		1280					1285	i				1290)		
Leu	Cys	Ser	Val	Pro	Pro	Pro	Pro	Pro	Ser	Ala	Phe	Ala	Glu	Met	Gly
	1295					1300)		_		1305				
Ser	Asp	His	Thr	Gln	Ser	Ser	Ala	Ser	Lys	Ile	Ser	Gln	Asp	Val	Asp

131	0				131	5				132	0				1325
Lys	Glu	Asp	Glu	Phe	Gly	Tyr	Ser	Trp	Lys	Asn	Ile	Arg	Glu	Arg	Tyr
				133	0				133	5				1340)
Gly	Thr	Leu	Thr	Gly	Glu	Leu	His	Met	Ile	Glu	Leu	Glu	Lys	Gly	His
			134	5				135	0				1355	· i	
Ser	Gly	Leu	Gly	Leu	Ser	Leu	Ala	Gly	Asn	Lys	Asp	Arg	Ser	Arg	Met
		136	0				136	5				1370)		
Ser	Val	Phe	Ile	Val	Gly	Ile	Asp	Pro	Asn	Gly	Ala	Ala	Gly	Lys	Asp
	137	5				1380)				1389	5			
Gly	Arg	Leu	Gln	Ile	Ala	Asp	Glu	Leu	Leu	Glu	Ile	Asn	Gly	Gln	Ιle
139	0				1395	; j				1400)				1405
Leu	Tyr	Gly	Arg	Ser	His	Gln	Asn	Ala	Ser	Ser	Ile	Ile	Lys	Cys	Ala
				1410)				1415	i				1420	
Pro	Ser	Lys	Val	Lys	Ile	Ile	Phe	Ile	Arg	Asn	Lys	Asp	Ala	Val	Asn
			1425	i				1430)				1435		
Gln	Met	Ala	Val	Cys	Pro	Gly	Asn	Ala	Val	Glu	Pro	Leu	Pro	Ser	Asn
		1440)				1445	i				1450	ı		
Ser	Glu	Asn	Leu	G 1 n	Asn	Lys	Glu	Thr	Glu	Pro	Thr	Val	Thr	Thr	Ser
	1455	5				1460)				1465	;			
Asp	Ala	Ala	Val	Asp	Leu	Ser	Ser	Phe	Lys	Asn	Val	Gln	His	Leu	Glu
1470)	÷.	<u>-</u>		1475	i				1480)				1485
Leu	Pro	Lys	Asp	Gln	Gly	Gly	Leu	Gly	Ile	Ala	Ile	Ser	Glu	Glu	Asp
				1490)				1495	i				1500	
Thr	Leu	Ser	Gly	Val	Ile	Ile	Lys	Ser	Leu	Thr	Glu	His	Gly	Val	Ala
			1505					1510)				1515		
Ala	Thr	Asp	Gly	Arg	Leu	Lys	Val	Gly	Asp	Gln	Ile	Leu	Ala	Val	Asp
		1520					1505					1 5 2 0			

Asp Glu Ile Val Val Gly Tyr Pro Ile Glu Lys Phe Ile Ser Leu Leu Lys Thr Ala Lys Met Thr Val Lys Leu Thr Ile His Ala Glu Asn Pro Asp Ser Gln Ala Val Pro Ser Ala Ala Gly Ala Ala Ser Gly Glu Lys Lys Asn Ser Ser Gln Ser Leu Met Val Pro Gln Ser Gly Ser Pro Glu Pro Glu Ser Ile Arg Asn Thr Ser Arg Ser Ser Thr Pro Ala Ile Phe Ala Ser Asp Pro Ala Thr Cys Pro Ile Ile Pro Gly Cys Glu Thr Thr Ile Glu Ile Ser Lys Gly Arg Thr Gly Leu Gly Leu Ser Ile Val Gly Gly Ser Asp Thr Leu Leu Gly Ala Phe Ile Ile His Glu Val Tyr Glu Glu Gly Ala Ala Cys Lys Asp Gly Arg Leu Trp Ala Gly Asp Gln Ile Leu Glu Val Asn Gly Ile Asp Leu Arg Lys Ala Thr His Asp Glu Ala Ile Asn ValoLeu Arg Gln Thr Pro Gln Arg Val Arg Leu Thr Leu Tyr Arg Asp Glu Ala Pro Tyr Lys Glu Glu Glu Val Cys Asp Thr Leu Thr Ile Glu Leu Gln Lys Lys Pro Gly Lys Gly Leu Gly Leu Ser Ile Val Gly Lys Arg Asn Asp Thr Gly Val Phe Val Ser Asp Ile Val Lys Gly

			1749	j				1750)				1755	i	
Gly	Ile	Ala	Asp	Pro	Asp	Gly	Arg	Leu	Ile	Gln	Gly	Asp	Gln	Ile	Leu
	٠	1760)				1765	i				1770)		•
Leu	Val	Asn	Gly	Glu	Asp	Val	Arg	Asn	Ala	Ser	Gln	G1u	Ala	Val	Ala
	177	5				1780)				1785	;			
Ala	Leu	Leu	Lys	Cys	Ser	Leu	Gly	Thr	Val	Thr	Leu	Glu	Val	Gly	Arg
1790) ·				1795	5				1800)				1805
Ile	Lys	Ala	Gly	Pro	Phe	His	Ser	Glu	Arg	Arg	Pro	Ser	Gln	Thr	Ser
				1810)				1815	i				1820	1
Gln	Val	Ser	Glu	Gly	Ser	Leu	Ser	Ser	Phe	Thr	Phe	Pro	Leu	Ser	Gly
			1825					1830)				1835		
Ser	Ser	Thr	Ser	Glu	Ser	Leu	Glu	Ser	Ser	Ser	Lys	Lys	Asn	Ala	Leu
		1840)				1845					1850			
Ala	Ser	Glu	Ile	Gln	Gly	Leu	Arg	Thr	Val	G 1 u	Met	Lys	Lys	Gly	Pro
	1855	j				1860	١				1865				
Thr	Asp	Ser	Leu	Gly	Ile	Ser	Ile	Ala	Gly	G 1 y	Val	Gly	Ser	Pro	Leu
1870)				1875	į.				1880					1885
Gly	Asp	Val	Pro	Ile	Phe	Ile	Ala	Met	Met	His	Pro	Thr	Gly	Val	Ala
				1890					1895					1900	
Ala	Gln	Thr	Gln	Lys	Leu	Arg	Val	Gly	Asp	Arg	Ile	Val	Thr	Ile	Cys
		• •	1905					1910					1915		
Gly	Thr	Ser	Thr	Glu	Gly	Met	Thr	His	Thr	Gln	Ala	Val	Asn	Leu	Leu
		1920					1925					1930			
Lys	Asn	Ala	Ser	Gly	Ser	Ile	Glu	Met	Gln	Val	Val	Ala	Gly	Gly	Asp
	1935	i				1940					1945				
Val	Ser	Val	Val	Thr	Gly	His	His	Gln	Glu	Pro	Ala	Ser	Ser	Ser	Leu
1950	1				1955				•	1960					1965

Ser Phe Thr Gly Leu Thr Ser Thr Ser Ile Phe Gln Asp Asp Leu Gly 1970 1975 Pro Pro Gln Cys Lys Ser Ile Thr Leu Glu Arg Gly Pro Asp Gly Leu 1985 1990 1995 Gly Phe Ser Ile Val Gly Gly Tyr Gly Ser Pro His Gly Asp Leu Pro 2000 2005 2010 Ile Tyr Val Lys Thr Val Phe Ala Lys Gly Ala Ala Ser Glu Asp Gly 2020 2025 2015 Arg Leu Lys Arg Gly Asp Gln Ile Ile Ala Val Asn Gly Gln Ser Leu 2030 2035 2040 2045 Glu Gly Val Thr His Glu Glu Ala Val Ala Ile Leu Lys Arg Thr Lys 2050 2055 2060 Gly Thr Val Thr Leu Met Val Leu Ser 2065 2070

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<400> 84

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Ala Glu Arg Leu Gln Thr Lys Leu Arg Glu Arg Gly Asp Val Ala Asn
15 20 25

Glu Asp Lys Leu Ser Leu Leu Lys Ser Val Leu Gln Ser Pro Leu Phe

35

40

45

Ser Gln Ile Leu Ser Leu Gln Thr Ser Val Gln Gln Leu Lys Asp Gln Val Asn Ile Ala Thr Ser Ala Thr Ser Asn Ile Glu Tyr Ala His Val Pro His Leu Ser Pro Ala Val Ile Pro Thr Leu Gln Asn Glu Ser Phe Leu Leu Ser Pro Asn Asn Gly Asn Leu Glu Ala Leu Thr Gly Pro Gly Ile Pro His Ile Asn Gly Lys Pro Ala Cys Asp Glu Phe Asp Gln Leu Ile Lys Asn Met Ala Gln Gly Arg His Val Glu Val Phe Glu Leu Leu Lys Pro Pro Ser Gly Gly Leu Gly Phe Ser Val Val Gly Leu Arg Ser Glu Asn Arg Gly Glu Leu Gly Ile Phe Val Gln Glu Ile Gln Glu Gly Ser Val Ala His Arg Asp Gly Arg Leu Lys Glu Thr Asp Gln Ile Leu Ala Ile Asn Gly Gln Ala Leu Asp Gln Thr Ile Thr His Gln Gln Ala lle Ser Ile Leu Gln Lys Ala Lys Asp Thr Val Gln Leu Val Ile Ala Arg Gly Ser Leu Pro Gln Leu Val Ser Pro Ile Val Ser Arg Ser Pro Ser Ala Ala Ser Thr Ile Ser Ala His Ser Asn Pro Val His Trp Gln His Met Glu Thr Ile Glu Leu Val Asn Asp Gly Ser Gly Leu Gly Phe

:

	255					260					265				
Gly	Ile	Ile	Gly	Gly	Lys	Ala	Thr	Gly	Val	I l e	Val	Lys	Thr	Ile	Leu
270					275					280					285
Pro	Gly	Gly	Val	Ala	Asp	Gln	His	Gly	Arg	Leu	Cys	Ser	Gly	Asp	His
				290					295					300	
Ile	Leu	Lys	Ile	Gly	Asp	Thr	Asp	Leu	Ala	Gly	Met	Ser	Ser	Glu	Gln
			305					310					315		
Val	Ala	Gln	Val	Leu	Arg	Gln	Cys	Gly	Asn	Arg	Val	Lys	Leu	Met	Ile
	•	320		•			325					330			
Ala	Arg	Ser	Ala	Ile	Glu	Glu	Arg	Thr	Ala	Pro	Thr	Ala	Leu	Gly	Ile
	335					340					345				
Thr	Leu	Ser	Ser	Ser	Pro	Thr	Ser	Thr	Pro	Glu	Leu	Arg	Val	Asp	Ala
350					355					360					365
Ser	Thr	Gln	Lys	Gly	Glu	Glu	Ser	Glu	Thr	Phe	Asp	Val	Glu	Leu	Thr
				370					375					380	
Lys	Asn	Val	Gln	Gly	Leu	G 1 <u>y</u>	Ile	Thr	Ile	Ala	Gly	Tyr	Ile	Gly	Asp
			385				*	390					395		
Lys	Lys	Leu	Glu	Pro	Ser	Gly	Ile	Phe	Val	Lys	Ser	Ile	Thr	Lys	Ser
		400					405					410	•		
Ser	Ala	Val	G1u	His	Asp	Gly	Arg	I.1 e	Gln	Ile	Gly	Asp	Gln	Ile	I 1.e
	415		ŦŢŦ,			420					425				
Ala	Val	Asp	Gly	Thr	Asn	Leu	Gln	Gly	Phe	Thr	Asn	Gln	Gln	Ala	Val
430					435					440					445
Glu	Val	Leu	Arg	His	Thr	Gly	Gln	Thr	Val	Leu	Leu	Thr	Leu	Met	Arg
				450			•		455					460	
Arg	Gly	Met	Lys	Gln	Glu	Ala	Glu	Leu	Met	Ser	Arg	Glu	Asp	Val	Thr
			465					470					175		

Lys Asp Ala Asp Leu Ser Pro Val Asn Ala Ser Ile Ile Lys Glu Asn Tyr Glu Lys Asp Glu Asp Phe Leu Ser Ser Thr Arg Asn Thr Asn Ile Leu Pro Thr Glu Glu Glu Gly Tyr Pro Leu Leu Ser Ala Glu Ile Glu Glu Ile Glu Asp Ala Gln Lys Gln Glu Ala Ala Leu Leu Thr Lys Trp Gln Arg Ile Met Gly Ile Asn Tyr Glu Ile Val Val Ala His Val Ser Lys Phe Ser Glu Asn Ser Gly Leu Gly Ile Ser Leu Glu Ala Thr Val 570 -Gly His His Phe Ile Arg Ser Val Leu Pro Glu Gly Pro Val Gly His Ser Gly Lys Leu Phe Ser Gly Asp Glu Leu Leu Glu Val Asn Gly Ile Thr Leu Leu Gly Glu Asn His Gln Asp Val Val Asn Ile Leu Lys Glu Leu Pro Ile Glu Val Thr Met Val Cys Cys Arg Arg Thr Val Pro Pro Thr Thr Gla Ser Glu Leu Asp Ser Leu Asp Leu Cys Asp Ile Glu Leu Thr Glu Lys Pro His Val Asp Leu Gly Glu Phe Ile Gly Ser Ser Glu Pro Glu Asp Pro Val Leu Ala Met Thr Asp Ala Gly Gln Ser Thr Glu Glu Val Gln Ala Pro Leu Ala Met Trp Glu Ala Gly Ile Gln His Ile

	•			690					695					700	
Met	Leu	Glu	Lys	Gly	Ser	Lys	Gly	Leu	Gly	Phe	Ser	Ile	Leu	Asp	Tyr
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Gln	Asp	Pro	Ile	Asp	Pro	Ala	Ser	Thr	Val	Ile	Ile	Ile	Arg	Ser	Leu
		720					725	-				730	•		
Val	Pro	Gly	Gly	Ile	Ala	Glu	Lys	Asp	Gly	Arg	Leu	Leu	Pro	Gly	Asp
	735					740					745				
Arg	Leu	Met	Phe	Val	Asn	Asp	Val	Asn	Leu	Glu	Asn	Ser	Ser	Leu	Glu
750					755					760					765
Glu	Ala	Val	Glu	Ala	Leu	Lys	Gly	Ala	Pro	Ser	Gly	Thr	Val	Arg	Ile
•				770					775					780	
Gly	Val	Ala	Lys	Pro	Leu	Pro	Leu	Ser	Pro	Glu	Glu	Gly	Tyr	Val	Ser
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Ala	Lys	Glu	Asp	Ser	Phe	Leu	Tyr	Pro	Pro	His	Ser	Cys	Glu	Glu	Ala
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Gly	Leu	Ala	Asp	Lys	Pro	Leu	Phe	Arg	Ala	Asp	Leu	A·1 a	Leu	Val	Gly
	815			·		820					825				
Thr	Asn	Asp	Ala	Asp	Leu	Val	Asp	Glu	Ser	Thr	Phe	Glu	Ser	Pro	Tyr
8'30					835					840					845
Ser	Pro	Glu	Asn	Asp	Ser	Ile	Tyr	Ser	Thr	Gln	Ala	Ser	Ile	Leu	Ser
		•	•	850					855					860	
Leu	His	Gly	Ser	Ser	Cys	Gly	Asp	Gly	Leu	Asn	Tyr	Gly	Ser	Ser	Leu
			865					870					875		
Pro	Ser	Ser	Pro	Pro	Lys	Asp	Val	Île	Glu	Asn	Ser	Cys	Asp	Pro	Val
		880					885					890			
Leu	Asp	Leu	His	Met	Ser	Leu	Glu	Glu	Leu	Туг	Thr	Gln	Asn	Leu	Leu
	895					900					905				

Glu Arg Gln Asp Glu Asn Thr Pro Ser Val Asp Ile Ser Met Gly Pro Ala Ser Gly Phe Thr Ile Asn Asp Tyr Thr Pro Ala Asn Ala Ile Glu Gln Gln Tyr Glu Cys Glu Asn Thr Ile Val Trp Thr Glu Ser His Leu Pro Ser Glu Val Ile Ser Ser Ala Glu Leu Pro Ser Val Leu Pro Asp Ser Ala Gly Lys Gly Ser Glu His Leu Leu Glu Gln Ser Ser Leu Ala Cys Asn Ala Glu Cys Val Met Leu Gln Asn Val Ser Lys Glu Ser Phe Glu Arg Thr Ile Asn Ile Ala Lys Gly Asn Ser Ser Leu Gly Met Thr Val Ser Ala Asn Lys Asp Gly Leu Gly Met Ile Val Arg Ser Ile Ile His Gly Gly Ala Ile Ser Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys Ile Leu Ser Ile Asn Glu Glu Ser Thr Ile Ser Val Thr Asn Ala Gln Ala Arg Ala Met Leu Arg Arg His Ser Leu Ile Gly Pro Asp Ile Lys Ile Thr Tyr Val Pro Ala Glu His Leu Glu Glu Phe Lys Ile Ser Leu Gly Gln Gln Ser Gly Arg Val Met Ala Leu Asp Ile Phe Ser Ser Tyr Thr Gly Arg Asp Ile Pro Glu Leu Pro Glu Arg Glu Glu Gly Glu Gly

1120 1125 1130

Glu Glu Ser Glu Leu Gln Asn Thr Ala Tyr Ser Asn Trp Asn Gln Pro

1135 1140 1145

Arg Arg Val Glu Leu Trp Arg Glu Pro Ser Lys Ser Leu Gly Ile Ser

1150 1155 1160 1165

Ile Val Gly Gly Arg Gly Met Gly Ser Arg Leu Ser Asn Gly Glu Val

1170 1175 1180

Met Arg Gly Ile Phe Ile Lys His Val Leu Glu Asp Ser Pro Ala Gly

1185 1190 1195

Lys Asn Gly Thr Leu Lys Pro Gly Asp Arg Ile Val Glu Val Asp Gly

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Lys Ala Gly Asn Pro Val Val Phe Met Val

1230 1235

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<400> 85

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	•		1				5					10				
										•						
gca	gag	cgo	tt.	g caa	aco	aag	ctg	cga	gaa	. cgt	ggg	gat	gta	gca	aat	157
Ala	Glu	Arg	Le	u Glr	Thr	Lys	Leu	Arg	Glu	Arg	Gly	Asp	Val	Ala	Asn	
	15					20					25					
		-														
gaa	gac	aaa	cti	gago	ctt	ctg	aag	tca	gtc	ctg	cag	ago	cct	cto	ttc	205
Glu	Asp	Lys	Le	ı Ser	Leu	Leu	Lys	Ser	Val	Leu	Gln	Ser	Pro	Leu	Phe	
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Ser	Gln	Ile	Lei	ı Ser	Leu	Gln	Thr	Ser	Val	Gln	Gln	Leu	Lys	Asp	Gln	
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gta	aat	att	gca	act	tca	gca	act	tca	aat	att	gaa	tat	gcc	cac	gtt	301
Val	Asn	Ile	Ala	Thr	Ser	Ala	Thr	Ser	Asn	Ile	Glu	Tyr	Ala	His	Val	
			65	i				70					7,5			
			7													
cct	cat	ctc	ago	сса	gct	gtg	att	cct	act	ctg	caa	aat	gaa	tcg	ttt.	349
Pro	His	Leu	Ser	Pro	Ala	Val	Ile	Pro	Thr	Leu	Gln	Asn	Glu	Ser	Phe	
		80					85					90				
tta	tta	tcc	cca	aac	aat	ggg	aat	ctg	gaa	gca	ctt	aca	gga	cct	ggt	397
Leu	Leu	Ser	Pro	Asn	Asn	Gly	Asn	Leu	Glu	Ala	Leu	Thr	Gly	Pro	Gly	

att	cca	cac	att	aat	ggg	aaa	cct	gct	tgt	gat	gaa	ttt	gat	cag	ctt	445
Ile	Pro	His	Ile	Asn	Gly	Lys	Pro	Ala	Cys	Asp	Glu	Phe	Asp	Gln	Leu	
110					115					120					125	
atc	aaa	aat	atg	gcc	cag	ggt	cgc	cat	gta	gaa	gtt	ttt	gag	ctc	ctc	493
Ile	Lys	Asn	Met	Ala	Gln	Gly	Arg	His	Val	Glu	Val	Phe	Glu	Leu	Leu	
				130			•		135					140		
								•								•
aaa	cct	cca	tct	gga	ggc	ctt	ggg	ttt	agt	gtt	gtg	gga	cta	aga	agt	. 541
Lys	Pro	Pro	Ser	Gly	Gly	Leu	Gly	Phe	Ser	Val	Val	Gly	Leu	Arg	Ser	
			145					150					155			
gaa	aac	aga	gga	gag	ctg	gga	ata	ttt	gtt	caa	gag	ata	caa	gag	ggc	589
Glu	Asn	Arg	Gly	Glu	Leu	Gly	Ile	Phe	Val	Gln	Glu	Ile	Gln	Glu	Gly	
		160					165					170				
agt	gtg	gcc	cat	aga	gat	gga	aga	ttg	aaa	gaa	act	gat	caa	att	ctt	637
Ser	Val	Ala	His	Arg	Asp	Gly	Arg	Leu	Lys	Glu	Thr	Asp	Gln	Ile	Leu	
	1,75	A.				180					185					
												•			,	
gct	atc	aat	gga	cag	gct	ctt	gat	cag	aca	att	aca	cat	cag	cag	gct	685
Ala	Ile	Asn	Gly	Gln	Ala	Leu	Asp	Ģln	Thr	Ile	Thr	His	Gln	Gln	Ala	
190					195				-	200					205	
							٠									
atc	agc	atc	ctg	cag	aaa	gcc	aaa	gat	act	gtc	cag	cta	gtt	att	gcc	733

Ile Ser Ile Leu Gln Lys Ala Lys Asp Thr Val Gln Leu Val Ile Ala

aga ggc tca ttg cct cag ctt gtc agc ccc ata gtt tcc cgt tct cca Arg Gly Ser Leu Pro Gln Leu Val Ser Pro Ile Val Ser Arg Ser Pro tot goa goo ago aca att toa got cac tot aat cog gtt cac tgg caa Ser Ala Ala Ser Thr Ile Ser Ala His Ser Asn Pro Val His Trp Gln cac atg gaa acg att gaa ttg gtg aat gat gga tct ggt ttg gga ttt His Met Glu Thr Ile Glu Leu Val Asn Asp Gly Ser Gly Leu Gly Phe ggc atc ata gga gga aaa gca act ggt gtg ata gta aaa acc att ctg Gly Ile Ile Gly Gly Lys Ala Thr Gly Val Ile Val Lys Thr Ile Leu

att cta aag att ggt gac aca gat cta gca gga atg agc agt gag caa 1021

Ile Leu Lys Ile Gly Asp Thr Asp Leu Ala Gly Met Ser Ser Glu Gln

305 310 315

cct gga gga gta gct gat cag cat ggg cgt tta tgc agt gga gac cac

Pro Gly Gly Val Ala Asp Gln His Gly Arg Leu Cys Ser Gly Asp His

gta	gca	caa	gtc	ctt	agg	caa	tgt	gga	aat	aga	gtt	aag	ttg	atg	att		1069
Val	Ala	Gln	Val	Leu	Arg	Gln	Cys	Gly	Asn	Arg	Val	Lys	Leu	Met	Ile		
		320					325					330			-		
	•										-						
gca	aga	agt	gcc	ata	gaa	gaa	cgt	aca	gca	ccc	act	gct	ttg	ggc	atc		1117
Ala	Arg	Ser	Ala	Ile	Glu	Glu	Arg	Thr	Ala	Pro	Thr	Ala	Leu	Gly	Ile		
	335					340					345					,	÷
																	4
acc	ctc	tcc	tca	tcc	cca	act	tca	acg	cca	gag	ttg	cgg	gtt	gat	gct		1165
Thr	Leu	Ser	Ser	Ser	Pro	Thr	Ser	Thr	Pro	Glu	Leu	Arg	Val	Asp	Ala		
350			•		355					360					365		
							•					•					
tct	act	cag	aaa	ggt	gaa	gaa	agt	gag	aca	ttt	gat	gta	gaa	ctc	act		1213
Ser.	Thr	Gln	Lys	Gly	Glu	Glu	Ser	Glu	Thr	Phe	Asp	Val	Glu	Leu	Thr		
				370					375					380			
											•						
aaa	aat	gtc	caa	gga	tta	gga	att	acc	att	gct	ggc	tac	att	gga	gat		1261
Lys	Asn	Val	Gln	Gly	Leu	Gly	Ile	Thr	Ile	Ala	Gly	Tyr	Ile	Gly	Asp		
			385					390					395				
			÷ ,														
aaa	aaa	ttg	gaa	cct	tca	gga	atc	ttt	gta	aag	agc	att	aca	aaa	agc		1309
Lys	Lys	Leu	Glu	Pro	Ser	Gly	Ile	Phe	Val	Lys	Ser	Ile	Thr	Lys	Ser		
•		400					405					410					
							,										
agt	gcc	gtt	gag	cat	gat	gga	aga	atc	caa	att	gga	gac	caa	att	ata		1357
Ser	Ala	Val	Glu	His	Asp	Gly	Arg	Ile	Gln	Ile	Gly	Asp	Gln	Ile	Ile		
	415					420					425						

gca	gta	gat	ggc	aca	aac	ctt	cag	ggt	ttt	act	aat	cag	caa	gca	gta	1405
Ala	Val	Asp	Gly	Thr	Asn	Leu	Gln	Gly	Phe	Thr	Asn	Gln	Gln	Ala	Val	
430					435				•	440					445	
															`	
gag	gta	ttg	cga	cat	aca	gga	caa	act	gtg	ctc	ctg	aca	cta	atg	agg	1453
Glu	Val	Leu	Arg	His	Thr	Gly	Gln	Thr	Val	Leu	Leu	Thr	Leu	Met	Arg	
				450					455					460		
aga	gga	atg	aag	cag	gaa	gcc	gag	ctc	atg	tca	agg	gaa	gac	gtc	aca	1501
Arg	Gly	Met	Lys	Gln	Glu	Ala	Glu	Leu	Met	Ser	Arg	G.l u	Asp	Val	Thr	
		•	465					470				•	475			
																-
aaa	gat	gca	gat	ttg	tct	cct	gtt	aat	gcc	agc	ata	atc	aaa	gaa	aat	1549
Lys	Asp	Ala	Asp	Leu	Ser	Pro	Val	Asn	Ala	Ser	Ile	Ile	Lys	Glu	Asn	
		480					485					490				
tat	gaa	aaa	gat	gaa	gat	ttt	tta	tct	tcg	acg	aga	aac	acc	aac	ata	1597
Tyr	Glu	Lys	Åsp	Glu	Asp	Phe	Leu	Ser	Ser	Thr	Arg	Asn	Thr	Asn	Ile	
	495					500					505			-		
tta	cca	act	gaa	gaa	gaa	ggg	tat	cca	tta	ctg	tca	gct	gag	ata	gaa	1645
Leu	Pro	Thr	Glu	Glu	Glu	Gly	Tyr	Pro	Leu	Leu	Ser	Ala	Glu	Ile	Glu	
510					515					520					525	
gaa	ata	gaa	gat	gca	caa	aaa	caa	gaa	gct	gct	ctg	ctg	aca	aaa	tgg	1693
G l u	Ile	G1u	Asp	Ala	Gln	Lys	Gln	G 1 u	Ala	Ala	Leu	Leu	Thr	Lys	Trp	

			-													
c a a	agg	att	atg	gga	att	aac	tat	gaa	ata	gtg	gtg	gcc	cat	gtg	agc	174
Gln	Arg	Ile	Met	Gly	Ile	Asn	Tyr	Glu	Ιlе	Val	Val	Ala	His	Val	Ser	
			545					550					555			
aag	ttt	agt	gag	aac	agt	gga	ttg	ggg	ata	agc	ctg	gaa	gcg	aca	gtg	178
Lys	Phe	Ser	Glu	Asn	Ser	Gly	Leu	Gly	Ile	Ser	Leu	Glu	Ala	Thr	Val	
,	-	560					565					570				
				•												
ga	cat	cat	ttt	atc	cga	tct	gtť	ctà	cca	gag	ggt	cct	gtt	gga	cac	1837
				Ile												
	575				Ī	580			•		585					
														-		
ıgc	222	aag	ete	ttc	agt	g g a	gar	939	cta	ttø	0 9 9	ot a	9 9 t	## C	ata	1885
				Phe												
90	41,	2,5	Dou	1 116	595	01,	пор	010	Deu	600	JIU	V & 1	ASII	013		
30					.					000					605	
				٠.												
				gaa												1933
hr	Leu	, Ac	Gly	Glu	Asn	His	Gln	Asp		Val	Asn	Ile	Leu	Lys	Glu	
				610					615					620		
tg	cct	ata	gaa	gtg	aca	atg	gtg	tgc	tgt	cgt	cga	act	gtg	cca	ccc	1981
e u	Pro	Ile	Glu	Val	Thr	Met	Val	Cys	Cys	Arg	Arg	Thr	Val	Pro	Pro	•
			625					630					635			

acc acc caa tca gaa ttg gat agc ctg gac tta tgt gat att gag cta

Thr Thr Gln Ser Glu Leu Asp Ser Leu Asp Leu Cys Asp Ile Glu Leu 640 645 650

		640					645					650					
aca	gaa	aag	cct	cac	gta	gat	cta	ggt	gag	ttc	atc	ggg	tca	tca	gag		2077
Thr	Glu	Lys	Pro	His	Val	Asp	Leu	Gly	Glu	Phe	Ile	Gly	Ser	Ser	Glu		
	655					660					665						
c c a	gag	gat	cca	gtg	ctg	gcg	atg	act	gat	gcg	ggt	cag	agt	aca	gaa		2125
Pro	Glu	Asp	Pro	Val	Leu	Ala	Met	Thr	Asp	Ala	Gly	Gln	Ser	Thr	Glu		
670					675					680					685		
			gca														2173
Glu	Val	Gln	Ala		Leu	Ala	Met	Trp		Ala	Gly	Ile	Gln	His	Ile		
				690					695					700			
											٠						
			aaa														2221
let	Leu	Glu	Lys	Gly	Ser	Lys			Gly	Phe	Ser			Asp	Tyr	,	
			705					710					715				
								4	-4-	-44	.4.						0000
		- 1	att									-					2269
1 1 17	vaħ	720	Tle	vab	770		3er 725	inr	491	116		730	Arg	ser	rea		
,		120					160					130					

gtg cct ggc ggc att gct gaa aag gat gga cga ctt ctt cct ggt gac 2317

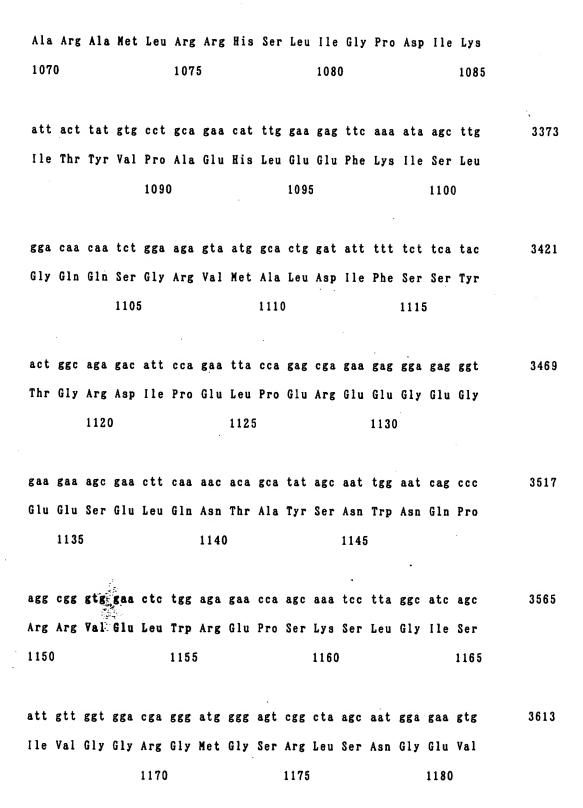
Val Pro Gly Gly Ile Ala Glu Lys Asp Gly Arg Leu Leu Pro Gly Asp

735 740 745

cga	ctc	atg	ttt	gta	aac	gat	gtt	aac	ttg	gaa	aac	agc	agt	ctt	gag	2365
Arg	Leu	Met	Phe	Val	Asn	Asp	Val	Asn	Leu	Glu	Asn	Ser	Ser	Leu	Glu	
750				-	755					760					765	
gaa	gct	gta	gaa	gca	ctg	aag	gga	gca	ccg	tca	ggg	act	gtg	aga	ata	2413
Glu	Ala	Val	Glu	Ala	Leu	Lys	Gly	Ala	Pro	Ser	Gly	Thr	Val	Arg	Ile	
				770					775					780		
														÷		
gga	gtt	gct	aag	cct	tta	ccc	ctt	tca	cca	gaa	gaa	ggt	tat	gtt	tct	2461
Gly	Val	Ala	Lys	Pro	Leu	Pro	Leu	Ser	Pro	Glu	Glu	Gly	Tyr	Val	Ser	
			785					790					795			
												•				
gct	aag	gag	gat	tcc	ttt	ctc	tac	cca	cca	cac	tcc	tgt	gag	gaa	gca	2509
Ala	Lys	Glu	Λsp	Ser	Phe	Leu	Tyr	Pro	Pro	llis	Ser	Cys	Glu	Glu	Ala	
		800					805					810				
ggg	ctg	gct	gac	aaa	ccc	ctc	ttc	agg	gct	gac	ttg	gct	ctg	gtg	ggc	2557
Gly	Leu	Ala	Asp	Lys	Pro	Leu	Phe	Arg	Ala	Asp	Leu	Ala	Leu	Val	Gly	
	815	.,				820					825					
		is in														
aca	aat	gat	gct	gac	tta	gta	gat	gaa	tcc	aca	ttt	gag	tct	cca	tac	2605
Thr	Asn	Asp	Ala	Asp	Leu	Val	Asp	Glu	Ser	Thr	Phe	Glu	Ser	Pro	Tyr	
830					835					840					845	
tct	cct	gaa	aat	gac	agc	atc	tac	tct	act	caa	gcc	tct	att	tta	tct	2653
Ser	Pro	Glu	Asn	Asp	Ser	Ile	Tyr	Ser	Thr	Gln	Ala	Ser	Ile	Leu	Ser	
				850					855					860		

ctt	cat	ggc	agt	tct	tgt	ggt	gat	ggc	ctg	aac	tat	ggt	tct	tcc	ctt	. 2	701
Leu	His	Gly	Ser	Ser	Cys	Gly	Asp	Gly	Leu	Asn	Tyr	Gly	Ser	Ser	Leu		
	•		865	•				870					875				
cca	tca	tct	cct	cct	aag	gat	gtt	att	gaa	aat	tct	tgt	gat	cca	gta	2	749
Pro	Ser	Ser	Pro	Pro	Lys	Asp	Val	Ile	Glu	Asn	Ser	Cys	Asp	Pro	Val		
		880			ē		885					890					
-																	
ctt	gat	ctg	cat	atg	tct	ctg	gag	gaa	cta	tat	acc	cag	aat	ctc	ctg	2	797
Leu	Asp	Leu	His	Met	Ser	Leu	Glu	Glu	Leu	Tyr	Thr	Gln	Asn	Leu	Leu		
•	895					900					905	•					
			٠									•					
gaa	aga	cag	gat	gag	aat	aca	cct	tcg	gtg	gac	ata	agt	atg	ggg	cct	2	845
Glu	Arg	Gln	Asp	Glu	Asn,	Thr	Pro	Ser	Val	Asp	Ile	Ser	Met	Gly	Pro		
910					915					920					925		
															•		
gct	tct	ggc	ttt	act	ata	aat	gac	tac	aca	cct	gca	aat	gct	att	gaa	2	893
Ala	Ser	Gly,	Phe	Thr	Ile	Asn	Asp	Tyr	Thr	Pro	Ala	Asn	Ala	Ile	Glu	٠	
				930					935					940			
caa	caa	tat	gaa	tgt	gaa	aac	aca	ata	gtg	tgg	act	gaa	tct	cat	tta	2	941
Gln	Gln	Туг	Glu	Cys	Glu	Asn	Thr	Ile	Val	Trp	Thr	Glu	Ser	His	Leu		
			945					950					955				
cca	agt	gaa	gtt	ata	tca	agt	gca	gaa	ctt	cct	tct	gtg	cta	ccc	gat	2	989
Pro	Ser	Glu	Val	Ile	Ser	Ser	Ala	Glu	Leu	Pro	Ser	Val	Leu	Pro	Asp		

																	•
tca	gct	gga	aag	ggc	tct	gag	cac	ctg	ctt	gaa	cag	agc	tcc	ctg	gcc		3037
Ser	Ala	Gly	Lys	Gly	Ser	Glu	His	Leu	Leu	Glu	Gln	Ser	Ser	Leu	Ala		
	975					980					985						
			•													-	
tgt	aat	gct	gag	tgt	gtc	atg	ctt	caa	aat	gta	tct	aaa	gaa	tct	ttt		3085
Суs	Asn	Ala	Glu	Cys	Val	Met	Leu	Gln	Asn	Val	Ser	Lys	Glu	Ser	Phe		
990					995					1000)				1005		
gaa	agg	act	att	aat	ata	gca	aaa	ggc	aat	tct	agc	cta	gga	atg	aca		3133
Glu	Arg	Thr	I 1 e	Asn	Ile	Ala	Lys	Gly	Asn	Ser	Ser	Leu	Gly	Met	Thr		
				1010)				1015	,		*		1020)		
gtt	agt	gct	aat	aaa	gat	ggc	ttg	ggg	atg	atc	gtt	cga	agc	att	att	;	3181
Val	Ser	Ala	Asn	Lys	Asp	Gly	Leu	Gly	Met	Ile	Val	Arg	Ser	Ile	I·le		
			1025					1030)				1035	;			
cat	gga	ggt	gcc	att	agt	cga	gat	ggc	cgg	att	gcc	att	ggg	gac	tgc	;	3229
His	Gly	Gly:	Ala	Ile	Ser	Arg	Asp	Gly	Arg	Ile	Ala	Ile	Gly	Asp	Cys		
		1040	·				1045					1050)				•
atc	ttg	tcc	att	aat	gaa	gag	tct	acc	atc	agt	gta	acc	aat	gcc	cag	:	3277
		Ser														•	
	1055					1060					1065					-	
g (2	rga	gct	ate.	++-	202	90.0	na t	t c t	a t a	a++	## A	00+	<i>g</i> o o	a t a	999	9	325
5 · a	~ P G	5 C C	405	5	454	uga				4 1 6	55 ^U	CUL	gac	aıa	aaa		343



atg agg ggc att ttc atc aaa cat gtt ctg gaa gat agt cca gct ggc Met Arg Gly Ile Phe Ile Lys His Val Leu Glu Asp Ser Pro Ala Gly aaa aat gga acc ttg aaa cct gga gat aga atc gta gag gca ccc agt Lys Asn Gly Thr Leu Lys Pro Gly Asp Arg Ile Val Glu Ala Pro Ser cag tca gag tca gag cca gag aag gct cca ttg tgc agt gtg ccc cca Gln Ser Glu Ser Glu Pro Glu Lys Ala Pro Leu Cys Ser Val Pro Pro ccc cct cct tca gcc ttt gcc gaa atg ggt agt gat cac aca cag tca Pro Pro Pro Ser Ala Phe Ala Glu Met Gly Ser Asp His Thr Gln Ser tct gca agc aaa atc tca caa gat gtg gac aaa gag gat gag ttt ggt Ser Ala Ser Lys Ile Ser Gln Asp Val Asp Lys Glu Asp Glu Phe Gly tac age tgg aaa aat ate aga gag egt tat gga ace eta aca gge gag Tyr Ser Trp Lys Asn Ile Arg Glu Arg Tyr Gly Thr Leu Thr Gly Glu ctg cat atg att gaa ctg gag aaa ggt cat agt ggt ttg ggc cta agt Leu His Met Ile Glu Leu Glu Lys Gly His Ser Gly Leu Gly Leu Ser

ctt	gct	ggg	aac	aaa	gac	cga	tcc	agg	atg	agt	gtc	ttc	ata	gtg	ggg		3997
Leu	Ala	Gly	Asn	Lys	Asp	Arg	Ser	Arg	Met	Ser	Val	Phe	Ile	Val	Gly		
	129	5				1300)				1308	5					
att	gat	cca	aat	gga	gct	gca	gga	aaa	gat	ggt	cga	ttg	caa	att	gca		4045
Ile	Asp	Pro	Asn	Gly	Ala	Ala	Gly	Lys	Asp	Gly	Arg	Leu	Gln	Ile	Ala		
131	0				1315	5				1320)				1325		
																	•
gat	gag	ctt	cta	gag	atc	aat	ggt	cag	att	tta	tat	gga	aga	agt	cat		4093
Asp	Glu	Leu	Leu	Glu	Ile	Asn	Gly	Gln	Ile	Leu	Tyr	Gly	Arg	Ser	His		
				1330)				1335	i		٠		1340)		
																	•
cag	aat	gcc	tca	tca	atc	att	aaa	tgt	gcc	cct	tct	aaa	gtg	aaa	ata	,	4141
Gln	Asn	Ala	Ser	Ser	Ile	Ile	Lys	Cys	Ala	Pro	Ser	Lys	Val	Lys	Ile		
			1345	i				1350)				1355	i			
att	ttt	atc	aga	aat	aaa	gat	gca	gtg	aat	cag	atg	gcc	gta	tgt	cct		4189
Ile	Phe	Ile	Arg	Asn	Lys	Asp	Ala	Val	Asn	Gln	Met	Ala	Val	Cys	Pro		
		1360	1 m				1365					1370	l				
gga	aat	gca	gta	gaa	cct	ttg	cct	tct	aac	tca	gaa	aat	ctt	caa	aat	4	4237
Gly	Asn	Ala	Val	Glu	Pro	Leu	Pro	Ser	Asn	Ser	Glu	Asn	Leu	Gln	Asn	•	
	1375	i				1380					1385						
aag	gag	aca	gag	cca	act	gtt	act	act	tct	gat	gca	gct	gte	gac	ctc	4	1285
_				Pro							•		-	-			

agt toa ttt aaa aat gtg caa cat ctg gag ctt ccc aag gat cag ggg Ser Ser Phe Lys Asn Val Gln His Leu Glu Leu Pro Lys Asp Gln Gly ggt ttg ggt att gct atc agc gaa gat aca ctc agt gga gtc atc Gly Leu Gly Ile Ala Ile Ser Glu Glu Asp Thr Leu Ser Gly Val Ile ata aag agc tta aca gag cat ggg gta gca gcc acg gat gga cga ctc Ile Lys Ser Leu Thr Glu His Gly Val Ala Ala Thr Asp Gly Arg Leu aaa gtc gga gat cag ata ctg gct gta gat gat gaa att gtt gtt ggt Lys Val Gly Asp Gln Ile Leu Ala Val Asp Asp Glu Ile Val Val Gly tac cct att gaa aag ttt att agc ctt ctg aag aca gca aag atg aca Tyr Pro Ile Glu Lys Phe Ile Ser Leu Leu Lys Thr Ala Lys Met Thr gta aaa ctt acc atc cat gct gag aat cca gat tcc cag gct gtt cct. Val Lys Leu Thr Ile His Ala Glu Asn Pro Asp Ser Gln Ala Val Pro

tca gca gct ggt gca gcc agt gga gaa aaa aag aac agc tcc cag tct

Ser Ala Ala Gly Ala Ala Ser Gly Glu Lys Lys Asn Ser Ser Gln Ser

							-		-							
			150	5				151	0				1515	5		
ctg	atg	gtc	cca	cag	tct	ggc	tcc	cca	gaa	ccg	gag	tcc	atc	cga	aat	4669
Leu	Met	Val	Pro	Gln	Ser	Gly	Ser	Pro	Glu	Pro	Glu	Ser	Ile	Arg	Asn	
		1520)				1529	5				1530) ,			•
aca	agc	aga	tca	tca	aca	cca	gca	att	ttt	gct	tct	gat	cct	gca	acc	4717
Thr	Ser	Arg	Ser	Ser	Thr	Pro	Ala	Ile	Phe	Ala	Ser	Asp	Pro	Ala	Thr	
	1535	5				1540)				1545	i .				
									-		-					
tgc	ccc	att	atc	cct	ggc	tgc	gaa	aca	acc	atc	gag	att	tcc	aaa	ggg	4765
Cys	Pro	Ile	Ile	Pro	Gly	Cys	Glu	Thr	Thr	Ile	Glu	Ile	Ser	Lys	Gly	
1550)				1555	i				1560)				1565	
cga	aca	ggg	ctg	ggc	ctg	agc	atc	gtt	ggg	ggt	tca	gạc	acg	ctg	ctg	4813
Arg	Thr	Gly	Leu	Gly	Leu	Ser	Ile	Val	Gly	Gly	Ser	Asp	Thr	Leu	Leu	
				1570)			-	1575	i				1580		
											•					
ggt	gcc	ttt	att	atc	cat	gaa	gtt	tat	gaa	gaa	gga	gca	gca	tgt	aaa	4861
Gly	Ala	Phe	Ile	Ile	His	Glu	Val	Tyr	Glu	Glu	Gly	Ala	Ala	Cys	Lys	
			1585					1590)			•	1595			

gat gga aga ctc tgg gct gga gat cag atc tta gag gtg aat gga att 4909 Asp Gly Arg Leu Trp Ala Gly Asp Gln Ile Leu Glu Val Asn Gly Ile 1600 1605 1610

gar	+++	900	996			+	a a t	***				- 4 -				4055
															cag	4957
Asp	Leu	Arg	Lys	Ala	Thr	His	Asp	Glu	Ala	. Ile	Asn	Val	Leu	Arg	Gln	
	161	5				162	0				162	5		•		
acg	cca	cag	aga	gtg	cgc	ctg	aca	ctc	tac	aga	gat	gag	gcc	cca	tac	5005
Thr	Pro	Gln	Arg	Val	Arg	Leu	Thr	Leu	Tyr	Arg	Asp	Glu	Ala	Pro	Tyr	
163	0				1635	5				1640)				1645	
												-				
aaa	gag	gag	gaa	gtg	tgt	gac	acc	ctc	act	att	gag	ctg	cag	aag	aag	5053
Lys	Glu	Glu	Glu	Val	Cys	Asp	Thr	Leu	Thr	Ile	Glu	Leu	Gln	Lys	Lys	
				1650)				165	5				1660)	
ccg	gga	aaa	ggc	cta	gga	tta	agt	att	gtt	ggt	aaa	aga	aac	gat	act	5101
	Gly															
		•	1665		•			1670		,	-, -	5	1675		••••	
									,				1010	•		
	øt s	+++	a+ a	+ 0 0	720	.++	a t o								4	£140
	gta															5149
GIŞ	Val			Ser	ASP	He			Gly	Gly	lie			Pro	Asp	
		1680): }{****				1685					1690	•			
			~										•			
gga	aga	ctg	atc	cag	gga	gac	cag	ata	tta	ttg	gtg	aat	ggg	gaa	gac	5197
Gly	Arg	Leu	Ile	Gln	Gly	Asp	Gln	Ile	Leu	Leu	Val	Asn	Gly	Glu	Asp	
	1695					1700					1705					
gtt	cgt	aat	gcc	tcc	caa	gaa	gcg	gtt	gcc	gct	ttg	cta	aag	tgt	tcc	5245
Val	Arg	Asn	Ala	Ser	Gln	Glu	Ala .	Val	Ala	Ala	Leu	Leu	Lys	Cys	Ser	
1710	ı				1715					1720					1725	

cta	ggc	aca	gta	acc	ttg	gaa	gtt	gga	aga	atc	aaa	gct	ggt	cca	ttc	5293
Leu	Gly	Thr	Val	Thr	Leu	Glu	Val	Gly	Arg	Ile	Lys	Ala	Gly	Pro	Phe	
				173	0				173	5				174	0	
cat	tca	gag	agg	agg	cca	tct	caa	acc	agc	cag	gtg	agt	gaa	ggc	agc	5341
His	Ser	Glu	Arg	Arg	Pro	Ser	G 1 n	Thr	Ser	Gln	Val	Ser	Glu	Gly	Ser	
			174	5				175	0				175	5		
ctg	tct	tct	ttc	act	ttt	cca	ctc	tct	gga	tcc	agt	aca	tct	gag	tca	5389
Leu	Ser	Ser	Phe	Thr	Phe	Pro	Leu	Ser	Gly	Ser	Ser	T,h r	Ser	Glu	Ser	
		176	0				1765	5				1770)			
						·							-			
ctg	gaa	agt	agc	tca	aag	aag	aat	gca	ttg	gca	tct	gaa	ata	cag	gga	5437
Leu	Glu	Ser	Ser	Ser	Lys	Lys	Asn	Ala	Leu	Ala	Ser	Glu	Ile	Gln	Gly	
	177	5				1780)				1785	i				
																•) •
tta	aga	aca	gtc	gaa	atg	aaa	aag	ggc	cct	act	gac	tca	ctg	gga	atc	5485
Leu	Arg	Thr	Val	Glu	Met	Lys	Lys	Gly	Pro	Thr	Asp	Ser	Leu	Gly	Ile	
1790)	3			1795	i				1800					1805	
		S.														
agc	atc	gct	gga	gga	gta	ggc	agc	cca	ctt	ggt	gat	gtg	cct	ata	ttt	5533
						•				Gly						-
				1810					1815		•			1820		
att	gca	ate	ato	cac	CCB	art	992	g††	gr a	gca		900	689	220	cto	5581
																9001
116	n i a	1161	nei	1112	L 1.0	1111	GIA	491	RIA	Ala	άTΠ	ınr	GID	гàг	ren	

1835

5917

	aga	gtt	ggg	gat	agg	att	gtc	acc	atc	tgt	ggc	aca	tcc	act	gag	ggc	5629
	Arg	Val	Gly	Asp	Arg	Ile	Val	Thr	Ile	Cys	Gly	Thr	Ser	Thr	Glu	Gly	
			1840)				1845	i				1850				•
٠																	
	atg	act	cac	acc	caa	gca	gtt	aac	cta	ctg	aaa	aat	gca	tct	ggc	tcc	5677
	Met	Thr	His	Thr	Gln	Ala	Val	Äsn	Leu	Leu	Lys	Asn	Ala	Ser	Gly	Ser	
		1855	i				1860					1865					
	att	gaa	atg	cag	gtg	gtt	gct	gga	gga	gac	gtg	agt	gtg	gtc	aca	ggt	5725
	Ile	Glu	Met	Gln	Val	Val	Ala	Gly	Gly	Asp	Val	Ser	Val	Val	Thr	Gly	
	1870)				1875	i				1880	ł				1885	
	cat	cat	cag	gag	cct	gca	agt	tcc	agt	ctt	tct	ttc	act	ggg	ctg	acg	5773
	His	His	Gln	Glu	Pro	Ala	Ser	Ser	Ser	Leu	Ser	Phe	Thr	Gly	Leu	Thr	
			•		1890	1				1895	i				1900		_
	tca	acc	agt	ata	ttt	cag	gat	gat	tta	gga	cct	cct	caa	tgt	aag	tct	5821
	Ser	Thr	Ser	i le	Phe	Gln	Asp	Asp	Leu	Gly	Pro	Pro	Gln	Cys	Lys	Ser	
			<u>بور</u> ت	1905	i				1910	}				1915	i		
	att	aca	cta	gag	cga	gga	cca	gat	ggc	tta	ggc	ttc	agt	ata	gtt	gga	5869
	Ile	Thr	Leu	Glu	Arg	Gly	Pro	Asp	Gly	Leu _.	Gly	Phe	Ser	Ile	Val	Gly	
			1920	١				1925					1930				
								•									

gga tat ggc agc cct cat gga gac tta ccc att tat gtt aaa aca gtg

Gly	Tyr	Gly	Ser	Pro	His	Gly	Asp	Leu	Pro	Ile	Tyr	Val	Lys	Thr	Val		
	193	5				1940)				1945	i		•			
ttt	gca	aag	gga	gca	gcc	tct	gaa	gac	gga	cgt	ctg	aaa	agg	ggc	gat	596	5
Phe	Ala	Lys	Gly	Ala	Ala	Ser	Glu	Asp	Gly	Arg	Leu	Lys	Arg	Gly	Asp		
1950	0				1955	į				1960)				1965		
cag	atc	att	gct	gtc	aat	ggg	cag	agt	cta	gaa	gga	gtc	acc	cat	gaa	6013	3
Gln	Ile	Ile	Ala	Val	Asn	Gly	Gln	Ser	Leu	Glu	Gly	Val	Thr	His	Glu	•	
				1970)				1975	i				1980	-		
		gtt														606	l
Glu	Ala	Val			Leu	Lys	Arg			Gly	Thr				Met		
			1985	j				1990					1995	j		-	
														, .		244	
		tct	tgaa	ittgg	gct g	ccag	aatt	ig as	acca a	10008	aco	ccta	agct			6110)
Val	Leu						•										
	,	2000	J														
		4 تعديد ما	in. Santa a										t	-++-		617	٨
Cacc	:	Lace I	Ricas	ıagaş	ça aı	gcac	: LKK (, cc	Lgaca	1811		itge	igi	guuc	agccgg	017	,
a+ 0 +	+++=		.+ + + +					. ++:	aorti	+++	++++	· c t c s	ato :	tagas	atgct	623	n
givl	, ι υ α δ	iaa (+5555	5 5 6	iadič	iaval	, , , , ,	agil					. 45 4 6		020	•
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		, , ,	·····	···ac			,	, , , , ,			5-41		o v 6		6	020	•

gaaggaatat ttgtgtaggt gaatctcgtt tttatttgtg gagatatcta atgttttgta

aagaaaatct cggggagttt aaaaaaaatg cetcaatttg gcaatctacc teeteteece 6530 accccaaact 6540 <210> 86 <211> 6750 <212> DNA <213> Homo sapience <220> <221> CDS <222> (71)(6280) <400> 86 ttetcagtca egcagtteea tittaattge tgttaatcat tteagagaag aacactgaac 60 tttgaaaaaa atg ttg gaa gee att gac aaa aat egg gee etg eat gea 103 Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala	gtcacatggg	; caagaattat	tacatgctaa	gctggttagt	ataaagaaag	ataattctaa	6410
accccaaact <210> 86 <211> 6750 <212> DNA <213> Homo sapience <220> <221> CDS <222> (71)(6280) <400> 86 ttctcagtca egcagttcca ttttaattgc tgttaatcat ttcagagaag aacactgaac tttgaaaaaa atg ttg gaa gcc att gac aaa aat cgg gcc ctg cat gca Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala	agctaaccaa	agaaaatggc	ttcagtaagt	taggatgaaa	aatgaaaata	taaaataaag	6470
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<pre><212> DNA <213> Homo sapience <220> <221> CDS <222> (71)(6280) <400> 86 ttctcagtca cgcagttcca ttttaattgc tgttaatcat ttcagagaag aacactgaac tttgaaaaaa atg ttg gaa gcc att gac aaa aat cgg gcc ctg cat gca Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala</pre>	<210> 86						
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ttctcagtca cgcagttcca ttttaattgc tgttaatcat ttcagagaag aacactgaac tttgaaaaaa atg ttg gaa gcc att gac aaa aat cgg gcc ctg cat gca Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala	<222> (71)	(6280)					
ttctcagtca cgcagttcca ttttaattgc tgttaatcat ttcagagaag aacactgaac tttgaaaaaa atg ttg gaa gcc att gac aaa aat cgg gcc ctg cat gca Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala							
tttgaaaaaa atg ttg gaa gcc att gac aaa aat cgg gcc ctg cat gca 109 Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala	<400> 86						
Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala	ttctcagtca	cgcagttcca	ttttaattgc	tgttaa'tcat	ttcagagaag	aacactgaac	60
Met Leu Glu Ala Ile Asp Lys Asn Arg Ala Leu His Ala	- :						
·	tttgaaaaaa	atg ttg ga	a gcc att ga	ic aaa aat o	gg gcc ctg	cat gca	109
1 5 10		Met Leu Glu	u Ala Ile As	sp Lys Asn A	rg Ala Leu	His Ala	
		. 1	5	•	10		
gca gag cgc ttg caa acc aag ctg cga gaa cgt ggg gat gta gca aat 157	gca gag cg	c ttg caa a	cc aag ctg	ga gaa cgt	ggg gat gta	gca aat	157
Ala Glu Arg Leu Gln Thr Lys Leu Arg Glu Arg Gly Asp Val Ala Asn	Ala Glu Ar	g Leu Gln Th	hr Lys Leu /	Arg Glu Arg	Gly Asp Val	. Ala Asn	

gaa	gac	aaa	ctg	agc	ctt	ctg	aag	tca	gtc	ctg	cag	agc	cct	ctc	ttc	205
Glu	Asp	Lys	Leu	Ser	Leu	Leu	Lys	Ser	Val	Leu	Gln	Ser	Pro	Leu	Phe	
30					35	•			-	40					45	
agt	cag	att	ctg	agc	ctt	cag	act	tct	gta	cag	cag	ctg	aaa	gac	cag	253
Ser	Gln	Ile	Leu	Ser	Leu	Gln	Thr	Ser	Val	Gln	Gln	Leu	Lys	Asp	Gln	
				50					55					60		
											•					
						gca										301
Val	Asn	ile		Thr	Ser	Ala	Thr		Asn	Ile	Glu	Tyr		His	Val	
			65					70					75			
e e t	cat	ete	agc	cca	get	gtg	att	cct	act	ctø	caa	aat	or a a	tro	+++	349
						Val										010
		80		•••			85		•	200	4111	90	•••	,		
tta	tta	tcc	cca	aac	aat	ggg	aat	ctg	gaa	gca	ctt	aca	gga	cct	ggt	397
Leu	Leu	Ser	Pro	Asn	Asn	Gly	Asn	Leu	Glu	Ala	Leu	Thr	Gly	Pro	Gly	
	95					100					105					
		3Ú	45. .∙ s													
att	cca	cac	att	aat	ggg	aaa	cct	gct	tgt	gat	gaa	ttt	gat	cag	ctt	445
Ile	Pro	His	Ile	Asn	Gly	Lys	Pro	Ala	Cys	Asp	Glu	Phe	Asp	Gln	Leu	
110					115					120					125	
atc	aaa	aat	atg	gcc	cag	ggt	cgc	cat	gta	gaa	gtt	ttt	gag	ctc	ctc	493
Ile	Lys	Asn	Met	Ala	Glp	Glv	Arg	His	Val	Glo	Va 1	Phe	Glu	Leu	Leu	

aaa	cct	cca	tct	gga	ggc	ctt	ggg	ttt	agt	gtt	gtg	gga	cta	aga	agt	541
Lys	Pro	Pro	Ser	Gly	Gly	Leu	Gly	Phe	Ser	Val	Val	Gly	Leu	Arg	Ser	
			145					150				•	155			
gaa	aac	aga	gga	gag	ctg	gga	ata	ttt	gtt	caa	gag	ata	caa	gag	ggc	589
	Asn															
		160				•-•	165					170	•			
		100					100					1,0				
	a + a	700						* *						. 4 4		627
	gtg															637
26L	Val	Ala	HIS	Arg	Asp		Arg	Leu	Lys	Glu		Asp	GIN	116	Leu	
	175					180					185	-				
gct	atc	aat	gga	cag	gct	ctt	gat	cag	aca	att	aca	cat	cag	cag	gct	685
Ala	Ile	Asn	Gly	Gln	Ala	Leu	Asp	Gln	Thr	Ile	Thr	His	Gln	Gln	Ala	
190					195					200					205	
atc	agc	atc:	ctg	cag	aaa	gcc	aaa	gat	act	gtc	cag	cta	gtt	att	gcc	733
Ile	Ser	110	Lou	Gln	Lys	Ala	Lys	Asp	Thr	Val	Gln	Leu	Val	Ile	Ala	
		1		210					215					220		
aga	ggc	tca	ttg	cct	cag	ctt	gtc	agc	ccc	ata	gtt	tcc	cgt	tct	cca	781
Arg	Gly	Ser	Leu	Pro	Gln	Leu	Val	Ser	Pro	Ile	Val	Ser	Arg	Ser	Pro	
			225					230					235			
				•			,									
tct	gca	gcc	agc	aca	att	tca	gct	cac	tct	aat	CCE	ett	cac	tgg	caa	829
	J	-	~ • •				J					3		- 30		

Ser Ala Ala Ser Thr Ile Ser Ala His Ser Asn Pro Val His Trp Gln 240 245 250

			. 4.4		14.										
atg	gaa	acg	att	gaa	ttg	gtg	aat	gat	gga	tct	ggt	ttg	gga	ttt	877
Met	Glu	Thr	Ile	Glu	Leu	Val	Asn	Asp	Gly	Ser	Gly	Leu	Gly	Phe	•
255					260					265					
atc	ata	gga	gga	aaa	gca	act	ggt	gtg	ata	gta	aaa	acc	att	ctg	925
Ile	Ile	Gly	Gly	Lys	Ala	Thr	Gly	Val	Ile	Val	Lys	Thr	Ile	Leu	
				275					280					285	
gga	gga	gta	gct	gat	cag	cat	ggg	cgt	tta	tgc	agt	gga	gac	cac	973
Gly	Gly	Val	Ala	Asp	Gln	His	Gly	Arg	Leu	Cys	Ser	Gly	Asp	His	
			290					295					300		
					•										
cta	aag	att	ggt	gac	aca	gat	cta	gca	gga	atg	agc	agt	gag	caa	1021
Leu	Lys	Ile	Gly	Asp	Thr	Asp	Leu	Ala	Gly	Met	Ser	Ser	Glu	Gln	
		305					310			•		315			
	t	io.													
	Met 255 atc Ile gga Gly	Met Glu 255 atc ata Ile Ile gga gga Gly Gly cta aag Leu Lys	Met Glu Thr 255 atc ata gga Ile Ile Gly gga gga gta Gly Gly Val cta aag att	Met Glu Thr Ile 255 atc ata gga gga Ile Ile Gly Gly gga gga gta gct Gly Gly Val Ala 290 cta aag att ggt Leu Lys Ile Gly 305	Met Glu Thr Ile Glu 255 atc ata gga gga aaa Ile Ile Gly Gly Lys 275 gga gga gta gct gat Gly Gly Val Ala Asp 290 cta aag att ggt gac Leu Lys Ile Gly Asp 305	Met Glu Thr Ile Glu Leu 255 260 atc ata gga gga aaa gca Ile Ile Gly Gly Lys Ala 275 gga gga gta gct gat cag Gly Val Ala Asp Gln 290 cta aag att ggt gac aca Leu Lys Ile Gly Asp Thr 305	Met Glu Thr Ile Glu Leu Val 255 260 atc ata gga gga aaa gca act Ile Ile Gly Gly Lys Ala Thr 275 gga gga gta gct gat cag cat cat Gly Gly Val Ala Asp Gln His 290 290 Thr Asp cta aaa att ggt gac aca gat Leu Lys Ile Gly Asp Thr Asp 305 .	Met Glu Thr Ile Glu Leu Val Asn 255 260 ggt atc ata gga gga aaa gca act ggt Ile Ile Gly Gly Lys Ala Thr Gly Gly gga gga gta gct gat cag cat ggg Gly Gly Val Ala Asp Gln His Gly cta aag att ggt gac aca gat cta Leu Lys Ile Gly Asp Thr Asp Leu 305 310	Met Glu Thr Ile Glu Leu Val Asn Asp 255 260 ggt gts atc ata gga gga aaa gca act ggt gts Ile Ile Gly Gly Lys Ala Thr Gly Val gga gga gta gct gat cag cat ggg cgt Gly Gly Val Ala Asp Gln His Gly Arg cta aag att ggt gac aca gat cta gca Leu Lys Ile Gly Asp Thr Asp Leu Ala 305 Thr Asp Leu Ala	Met Glu Thr Ile Glu Leu Val Asn Asp Gly 255 260 280 280 280 280 280 280 280 280 280 280 280 280 280 280 280 280 280 280 295	Met Glu Thr Ile Glu Leu Val Asn Asp Gly Ser 255 256 260 260 265 265 atc ata gga gaa gca act ggt gtg ata gta Ile Ile Gly Lys Ala Thr Gly Val Ile Val gga gga gta gct ga cat ggg cgt tta tgc Gly Gly Val Ala Asp Gln His Gly Arg Leu Cys cta aag att ggt gac aca gat cta gca gga atg Leu Lys Ile Gly Asp Thr Asp Leu Ala Gly Met	Met Glu Thr Ile Glu Leu Val Asn Asp Gly Ser Gly 255 265 260 265 265 265 265 265 265 265 265 280 295	Met Glu Thr Ile Glu Leu Val Asn Asp Gly Ser Gly Leu 255 260 265	Met Glu Thr Ile Glu Leu Val Asn Asp Gly Ser Gly Leu Gly 255 265 265 265 265 265 280 280 280 280 280 280 280 281 281 281 281 281 281 281 281 282 280 283 283 283 283 283 283 283 283 283 284	atc ata gga gga aaa gca act ggt gtg ata gta aaa acc att ctg Ile Ile Gly Gly Lys Ala Thr Gly Val Ile Val Lys Thr Ile Leu 275 280 285 gga gga gta gct gat cag cat ggg cgt tta tgc agt gga gac cac Gly Gly Val Ala Asp Gln His Gly Arg Leu Cys Ser Gly Asp His 290 295 300 cta aag att ggt gac aca gat cta gca gga atg agc agt gag caa Leu Lys Ile Gly Asp Thr Asp Leu Ala Gly Met Ser Ser Glu Gln 305 310 315

gta gca caa gtc ctt agg caa tgt gga aat aga gtt aag ttg atg att 1069

Val Ala Gln Val Leu Arg Gln Cys Gly Asn Arg Val Lys Leu Met Ile

320 325 330

gca aga agt gcc ata gaa gaa cgt aca gca ccc act gct ttg ggc atc 1117

Ala Arg Ser Ala Ile Glu Glu Arg Thr Ala Pro Thr Ala Leu Gly Ile

335 340 345

acc	ctc	tcc	tca	tcc	cca	act	tca	acg	cca	gag	ttg	cgg	gtt	gat	gct	1165
Thr	Leu	Ser	Ser	Ser	Pro	Thr	Ser	Thr	Pro	Glu	Leu	Arg	Val	Asp	Ala	
350					355	•				360					365	
	-															
tct	act	cag	aaa	ggt	gaa	gaa	agt	gag	aca	ttt	gat	gta	gaa	ctc	act	1213
Ser	Thr	Gln	Lys	Gly	Glu	Glu	Ser	Glu	Thr	Phe	Asp	Val	Glu	Leu	Thr	
				370					375					380		
aaa	aat	gtc	caa	gga	tta	gga	att	acc	att	gct	ggc	tac	att	gga	gat	1261
Lys	Asn	Val	Gln	Gly	Leu	Gly	Ile	Thr	Ile	Ala	Gly	Tyr	Ile	Gly	Asp	
			385					390					395			•
												•				
aaa	aaa	ttg	gaa	cct	tca	gga	atc	ttt	gta	aag	agc	att	aca	aaa	agc	1309
Lys	Lys	Leu	Glu	Pro	Ser	Gly	Ile	Phe	Val	Lys	Ser	Ile	Thr	Lys	Ser	
		400					405					410				
agt	gcc	gtt	gag	cat	gat	gga	aga	atc	caa	att	gga	gac	caa	att	ata	1357
Ser	Ala	Val	Glu	His	Asp	Gly	Arg	Ile	Gln	Ile	Gly	Asp	Gln	Ile	Ile	
٠	415	7.				420					425					
		3								٠						
gca	gta	gat	ggc	aca	aac	ctt	cag	ggt	ttt	act	aat	cag	caa	gca	gta	1405
Ala	Val	Asp	Gly	Thr	Asn	Leu	Gln	Gly	Phe	Thr	Asn	Gln	Gln	Ala	Val	
430					435					440					445	
										•						
gag	gta	ttg	cga	cat	aca	gga	caa	act	gtg	ctc	ctg	aca	cta	atg	agg	1453
Glu	Val	Leu	Arg	His	Thr	Gly	Gln	Thr	Val	Leu	Leu	Thr	Leu	Met	Arg	
				450					455					460		

gga	atg	aag	cag	gaa	gcc	gag	ctc	atg	tca	agg	gaa	gac	gtc	aca		1501
Gly	Met	Lys	Gln	Glu	Ala	Glu	Leu	Het	Ser	Arg	Glu	Asp	Val	Thr		
		465					470					475				
gat	gca	gat	ttg	tct	cct	gtt	aat	gcc	agc	ata	atc	aaa	gaa	aat		1549
Asp	Ala	Asp	Leu	Ser	Pro	Val	Asn	Ala	Ser	Ile	Ile	Lys	Glu	Asn		
	480					485					490					
•																
gaa	aaa	gat	gaa	gat	ttt	tta	tct	tcg	acg	aga	aac	acc	aac	ata		1597
Glu	Lys	Asp	Glu	Asp	Phe	Leu	Ser	Ser	Thr	Arg	Asn	Thr	Asn	Ile		
495					500					505	·					
cca	act	gaa	gaa	gaa	ggg	tat	cca	tta	ctg	tca	gct	gag	ata	gaa		1645
Pro	Thr	Glu	Glu	Glu	Gly	Tyr	Pro	Leu	Leu	Ser	Ala	Glu	Ile	Glu	•	
				515					520					525		,
ata	gaa	gat	gca	caa	aaa	caa	gaa	gct	gct	ctg	ctg	aca	aaa	tgg		1693
Ile	Glu:	Asp	Ala	Gln	Lys	Gln	Glu	Ala	Ala	Leu	Leu	Thr	Lys	Trp		
			530					535					540			
												٠				
agg	att	atg	gga	att	aac	tat	gaa	ata	gtg	gtg	gcc	cat	gtg	agc		1741
Arg	Ile	Met	Gly	Ile	Asn	Tyr	Glu	Ile	Val	Val	Ala	His	Val	Ser		
		ė										-				
ttt	agt	gag	aac	agt	gga	tte.	ggg	ata	agc	ctg	gaa	gcg	aca	gtg		1789
								•								
	gat Asp gaa Glu 495 cca Pro ata Ile agg	gat gca Asp Ala 480 gaa aaa Glu Lys 495 cca act Pro Thr ata gaa Ile Glu agg att Arg Ile	gat gca gat Asp Ala Asp 480 gaa aaa gat Glu Lys Asp 495 cca act gaa Pro Thr Glu ata gaa gat Ile Glu Asp arg att atg Arg Ile Met 545	Gly Met Lys Gln 465 465 1 gat gat ttg Asp Ala Asp Leu 480 480 Glu cca act gaa gaa gaa act gaa gaa Pro Thr Glu Glu ata gaa gaa saa Ile Asp Ala 530 agg att atg gga Arg Ile Met Gly 545 ttt agg aac	Gly Met Lys Gln Glu gat 465 tet gat gat tet tet Asp Ala Asp Leu Ser 480 gaa gat gat Glu Lys Asp Glu Asp 495 gaa gaa gaa gaa gaa gaa gaa ata gaa	Gly Met Lys Gln Glu Ala 465 465	Gly Het Lys Gln Glu Ala Glu 465 465 485 486 486 486 486 486 486 486 486 485 gaa aaa gat gaa gat 485 485 gaa aaa gat gat 485 485 gaa aaa gat gat 485 485 cca act gaa gat gg tat dys flu Asp Ala gg tat ata gaa gaa gaa gg tat ata gaa gaa gaa gg tat ata gaa gaa gaa gaa caa caa ata gaa gaa gaa aaa caa caa ata gaa gaa ata aaa caa ata ata gaa att aac tat ata ata ata aac tat <	Gly Het Lys Gln Glu Ala Glu Leu 465 470 gat gca gat ttg tct cct gtt aat Asp Ala Asp Leu Ser Pro Val Asn 480 2 Gu Ser Pro Val Asn 485 3 Gu Asp Phe Leu Ser 61u Lys Asp Glu Asp Phe Leu Ser 495 500 500 500 7 Pro Fro Pro Pro Fro Pro Pro Fro Pro Pro	Gly Het Lys Gln Glu Ala Glu Leu Het gat 465	Gly Met Lys Gln Glu Ala Glu Leu Met Ser 465 465 20 470 470 470 gat gca gat ttg cct gtt aat gcc agc Asp Ala Asp Leu Ser Pro Val Asp Ala Ser gaa aaa gat gat ttt tta tct tcg acg Glu Lys Asp Glu Asp Phe Leu Ser Ser Thr 495 500 500 500 500 500 520 520 cca act gaa gaa ggg tat cca tta ctg pro Thr Glu Glu Glu Glu Glu Tyr Pro Leu Leu gat gaa gaa aaa caa gaa gct gct glu Ala Ala Glu Lys Glu Al	Gly Het Lys Gln Glu Ala Glu Leu Het Ser Arg gat gca gat ttg tct cct gtt aat gcc agc ata Asp Ala Asp Leu Ser Pro Val Asn Ala Ser Ile 480 Train Glu Asp Pro Val Asn Ala Ser Ile 480 Train Glu Asp Pro Val Asn Ala Ser Ile 481 Lys Asp Glu Asp Pro Leu Ser Thr Arg 495 Train Glu Asp Fro Leu Ser Thr Arg 495 Train Glu Asp gag gag gag tat cca tat cca tat cca tat cca tat cca gag	Gly Het Lys Gln Glu Ala Glu Leu Het Ser Arg Glu gat gca gat ttg tct cct gtt aat gcc agc ata atc Asp Ala Asp Leu Ser Pro Val Asn Ala Ser Ile Ile 480	Gly Het Lys Gln Glu Ala Glu Leu Het Ser Arg Glu Asp gat gca gat ttg tcc gtt aat gcc agc ata atc aaa Asp Ala Asp Leu Ser Pro Val Asn Ala Ser Ile Ile Lys 480	Gly Met Lys Gln Glu Ala Glu Leu Met Ser Arg Glu Asp Val gat gca gat ttg tct cct gtt aat gcc agc ata atc aaa gaa Asp Ala Asp Leu Ser Pro Val Asp Ala Ser Ile Ile Lus aaa gaa Asp Ala Asp Leu Ser Pro Val Asp Ala Ser Ile Ile Lus Lus Asp Asp Glu Asp Pro Val Asp Ser Thr Arg Asp Thr Asp Asp Thr Asp	gat gca gat ttg tct cct gtt aat gcc agc ata atc aaa gaa aat Asp Ala Asp Leu Ser Pro Val Asp Ala Ser Ile Ile Lys Glu Asp 480 485 485 490 490 490 490 490 486 490 490 486 490 486 490 486 490 486 486 490 486 490 486 486 490 486 486 490 486 486 486 486 490 486 <	Gly Met Lys Gln Glu Ala Glu Leu Met Ser Arg Glu Asp Val Thr 465 470 475 gat gca gat ttg tct cct gtt aat gcc agc ata atc aaa gaa aat 485 470 475 gat gca gat ttg tct cct gtt aat gcc agc ata atc aaa gaa aat 480 485 490 gaa aaa gat gaa gat ttt tta tct tcg acg aga aac acc aac ata 61u Lys Asp Glu Asp Phe Leu Ser Ser Thr Arg Asn Thr Asn Ile 495 505 cca act gaa gaa gaa gag ggg tat cca tta ctg tca gct gag ata gaa 505 505 cca act gaa gaa gaa gag ggg tat cca tta ctg tca gct gag ata gaa 61u Glu Glu Glu Gly Tyr Pro Leu Leu Ser Ala Glu Ile Glu 515 520 525 ata gaa gat gca caa aaa caa gaa gct gct ctg ctg ctg aca aaa tgg 530 535 ata gaa gat tat atg gga att aac tat gaa ata gtg gtg gcc cat gtg agc 545 550 att atg gga att atg gga att gcg att ggg atta gcg ctg gcg cca gtg 555 ttt agt gag aac agt ggg ttg gga ttg ggg atta gcg atta agc ctg gaa gcg aca gtg

gga cat cat ttt atc cga tct gtt cta cca gag ggt cct gtt gga cac Gly His His Phe Ile Arg Ser Val Leu Pro Glu Gly Pro Val Gly His age ggg aag ete tte agt gga gae gag eta ttg gaa gta aat gge ata Ser Gly Lys Leu Phe Ser Gly Asp Glu Leu Leu Glu Val Asn Gly Ile act tta ctt ggg gaa aat cac caa gat gtg gtg aat atc tta aaa gaa Thr Leu Leu Gly Glu Asn His Gln Asp Val Val Asn Ile Leu Lys Glu ctg cct ata gaa gtg aca atg gtg tgc tgt cgt cga act gtg cca ccc Leu Pro Ile Glu Val Thr Met Val Cys Cys Arg Arg Thr Val Pro Pro acc acc caa tca gaa ttg gat agc ctg gac tta tgt gat aft gag cta Thr Thr Glaser Glu Leu Asp Ser Leu Asp Leu Cys Asp Ile Glu Leu

aca gaa aag cct cac gta gat cta ggt gag ttc atc ggg tca tca gag 2077

Thr Glu Lys Pro His Val Asp Leu Gly Glu Phe Ile Gly Ser Ser Glu
655 660 665

cca gag gat cca gtg ctg gcg atg act gat gcg ggt cag agt aca gaa 2125

Pro	Glu	Asp	Pro	Val	Leu	Ala	Met	Thr	Asp	Ala	Gly	Gln	Ser	Thr	Glu	
670					675					680					685	
gag	gtt	caa	gca	cct	ttg	gcc	atg	tgg	gag	gct	ggc	att	cag	cac	ata	2173
Glu	Val	Gln	Ala	Pro	Leu	Ala	Met	Trp	Glu	Ala	Gly	Ile	Gln	His	Ile	
				690					695					700		
atg	ctg	gag	aaa	ggg	agc	aaa	gga	ctt	ggt	ttt	agc	att	tta	gat	tat	2221
Met	Leu	Glu	Lys	Gly	Ser	Lys	Gly	Leu	Gly	Phe	Ser	Ile	Leu	Asp	Tyr	
			705					710	•				715			
cag	gat	cca	att	gat	cca	gca	agc	act	gtg	att	ata	att	cgt	tct	ttg	2269
Gln	Asp	Pro	Ile	Asp	Pro	Ala	Ser	Thr	Val	Ile	Ile	Ile	Arg	Ser	Leu	
		720					725					730				
												_				
gtg	cct	ggc	ggc	att	gct	gaa	aag	gat	gga	cga	ctt	ctt	cct	ggt	gac	2317
Val	Pro	Gly	Gly	Ile	Ala	Glu	Lys	Asp	Gly	Arg	Leu	Leu	Pro	Gly	Asp	
	735					740					745					
		دواد	ing.													
cga	ctc	at g	ttt	gta	aac	gat	gtt	aac	ttg	gaa	aac	agc	agt	ctt	gag	2365
Arg	Leu	He t	Phe	Val	Asn	Asp	Val	Asn	Leu	Glu	Asn	Ser	Ser	Leu	Glu	
750					755					760					765	
gaa	gct	gta	gaa	gca	ctg	aag	gga	gca	ccg	tca	ggg	act	gtg	aga	ata	2413
	Ala															
				770		•			775		•			780		

																-
gga	gtt	gct	aag	cct	tta	ccc	ctt	tca	cca	gaa	gaa	ggt	tat	gtt	tct	2461
Gly	Val	Ala	Lys	Pro	Leu	Pro	Leu	Ser	Pro	Glu	Glu	Gly	Tyr	Val	Ser	
			785					790					795			
gct	aag	gag	gat	tcc	ttt	ctc	tac	cca	cca	cac	tcc	tgt	gag	gaa	gca	2509
Ala	Lys	Glu	Asp	Ser	Phe	Leu	Tyr	Pro	Pro	His	Ser	Cys	Glu	Glu	Ala	
		800					805					810				
															•	
ggg	ctg	gct	gac	aaa	ccc	ctc	ttc	agg	gct	gac	ttg	gct	ctg	gtg	ggc	2557
Gly	Leu	Ala	Asp	Lys	Pro	Leu	Phe	Arg	Ala	Asp	Leu	Ala	Leu	Val	Gly	
	815					820					825					
aca	aat	gat	gct	gac	tta	gta	gat	gaa	tcc	aca	ttt	gag	tct	cca	tac	2605
		Asp														
830					835		•			840					845	
tet	cct	gaa	aat	Fac	900	atc	tac	tet	act	caa	gcc	tet	att	tta	tet	2653
		Glu										•				2000
261	110		n o u	850	961	110	.,.	501	855	VI				860	50.	
		277 2 ¹ 78	ri Garage	000					000					800		
		Q.	w _a		4 - 4	4			- 4		4.4				-44	2701
		ggc														2701
Leu	His	Gly		Ser	Cys	Gly	Asp		Leu	ASD	туг	GIY		Ser	Leu	
			865					870					875			
cca	tca	tct	cct	cct	aag	gat	gtt	att	gaa	aat	tct	tgt	gat	cca	gta	2749
Pro	Ser	Ser	Pro	Pro	Lys	Asp	Val	Ile	Glu	Asn	Ser	Cys	Asp	Pro	Val	
		880					885					890				

(tt	gat	ctg	cat	atg	tct	ctg	gag	gaa	cta	tat	acc	cag	aat	ctc	ctg	2797
I	eu	Asp	Leu	His	Met	Ser	Leu	Glu	Glu	Leu	Tyr	Thr	Gln	Asn	Leu	Leu	
		895					900				*	905					
		•															
8	aa	aga	cag	gat	gag	aat	aca	cct	tcg	gtg	gac	ata	agt	atg	ggg	cct	2845
0	lu	Arg	Gln	Asp	Glu	Asn	Thr	Pro	Ser	Val	Asp	Ile	Ser	Met	Gly	Pro	
ç	10					915			•		920					925	
g	ct	tct	ggc	ttt	act	ata	aat	gac	tac	aca	cct	gca	aat	gct	att	gaa	2893
A	la	Ser	Gly	Phe	Thr	Ile	Asn	Asp	Tyr	Thr	Pro	Ala	Asn	Ala	Ile	Glu	
			-		930					935			•		940		
						٠											
c	aa	caa	tat	gaa	tgt	gaa	aac	aca	ata	gtg	tgg	act	gaa	tct	cat	tta	2941
G	l n	Gln	Ty,r	Glu	Cys	Glu	Asn	Thr	Ile	Val	Trp	Thr	Glu	Ser	His	Leu	
				945					950					955			-
c	ca	agt	gaa	gtt	ata	tca	agt	gca	gaa	ctt	cct	tct	gtg	cta	ccc	gat	2989
P	ro	Ser	Glu	Val	Ile	Ser	Ser	Ala	Glu	Leu	Pro	Ser	Val	Leu	Pro	Asp	
			960:					965					970				
t	c a	gct	gga	aag	ggc	tct	gag	tac	ctg	ctt	gaa	cag	agc	tcc	ctg	gcc	3037
S	er	Ala	Gly	Lys	Gly	Ser	G l u	Tyr	Leu	Leu	Glu	Gln	Ser	Ser	Leu	Ala	
		975					980					985					
t	gt	aat	gct	gag	tgt	gtc	atg	ctt	caa	aat	gta	tct	aaa	gaa	tct	ttt	3085
C	уs	Asn	Ala	Glu	Cys	Val	Met	Leu	Gln	Asn	Val	Ser	Lys	Glu	Ser	Phe	٠

gaa agg act att aat ata gca aaa ggc aat tot agc cta gga atg aca Glu Arg Thr Ile Asn Ile Ala Lys Gly Asn Ser Ser Leu Gly Met Thr gtt agt gct aat aaa gat ggc ttg ggg atg atc gtt cga agc att att Val Ser Ala Asn Lys Asp Gly Leu Gly Met Ile Val Arg Ser Ile Ile cat gga ggt gcc att agt cga gat ggc cgg att gcc att ggg gac tgc His Gly Gly Ala Ile Ser Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys atc ttg tcc att aat gaa gag tct acc atc agt gta acc aat gcc cag Ile Leu Ser Ile Asn Glu Glu Ser Thr Ile Ser Val Thr Asn Ala Gln gca cga gct atg ttg aga aga cat tct ctc att ggc cct gac ata aaa Ala Arg Ala Met Leu Arg Arg His Ser Leu Ile Gly Pro Asp Ile Lys att act tat gtg cct gca gaa cat ttg gaa gag ttc aaa ata agc ttg Ile Thr Tyr Val Pro Ala Glu His Leu Glu Glu Phe Lys Ile Ser Leu

gga caa caa tot gga aga gta atg gca ctg gat att ttt tot toa tac

Gly Gln Gln Ser Gly Arg Val Met Ala Leu Asp Ile Phe Ser Ser Tyr
1105 1110 1115

act ggc aga gac att cca gaa tta cca gag cga gaa gag gga gag ggt 3469

Thr Gly Arg Asp Ile Pro Glu Leu Pro Glu Arg Glu Glu Glu Gly Glu Gly

1120 1125 1130

gaa gaa agc gaa ctt caa aac aca gca tat agc aat tgg aat cag ccc 3517
Glu Glu Ser Glu Leu Gln Asn Thr Ala Tyr Ser Asn Trp Asn Gln Pro
1135 1140 1145

agg cgg gtg gaa ctt tgg aga gaa cca agc aaa tcc tta ggc atc agc 3565

Arg Arg Val Glu Leu Trp Arg Glu Pro Ser Lys Ser Leu Gly Ile Ser

1150 1165

att gtt ggt gga cga ggg atg ggg agt cgg cta agc aat gga gaa gtg 3613

Ile Val Gly Gly Arg Gly Met Gly Ser Arg Leu Ser Asn Gly Glu Val

1170 1175 1180

atg agg ggcatt ttc atc aaa cat gtt ctg gaa gat agg cca gct ggc 3661

Met Arg Gly Ile Phe Ile Lys His Val Leu Glu Asp Arg Pro Ala Gly

1185 1190 1195

aaa aat gga acc ttg aag cct gga gat aga atc gta gag gtg gat gga 3709

Lys Asn Gly Thr Leu Lys Pro Gly Asp Arg Ile Val Glu Val Asp Gly

1200 1205 1210

atg	gac	ctc	aga	gat	gca	agc	cat	gaa	caa	gct	gtg	gaa	gcc	att	cgg	3757	
Met	Asp	Leu	Arg	Asp	Ala	Ser	His	Glu	Gln	Ala	Va1	Glu	Ala	Ile	Arg		
	1215				122	0			122								
	•																
aaa	gca	ggc	aac	cct	gta	gtc	ttt	atg	gta	cag	agc	att	ata	aac	aga	3805	
Lys	Ala	Gly	Asn	Pro	Val	Val	Phe	Met	Val	Gln	Ser	Ile	Ile	Asn	Arg		
1230 123					1235	5	1240)				1245					
																•	
cca	agg	aaa	tcc	cct	ttg	cct	tcc	ttg	ctg	cac	aac	ctt	tac	cct	aag	3853	
Pro	Arg	Lys	Ser	Pro	Leu	Pro	Ser	Leu	Leu	His	Asn	Leu	Tyr	Pro	Lys		
	1250						1255)			
												•	•				
tac	aac	ttc	agc	agc	act	aac	cca	ttt	gct	gac	tct	cta	caa	atc	aac	3901	
Tyr	Asn	Phe	Ser	Ser	Thr	Asn	Pro	Phe	Ala	Asp	Ser	Leu	Gln	Ile	Asn		
	1265					1270					1275						
gcc	gac	aag	gca	ccc	agt	cag	tca	gag	tca	gag	cca	gag	aag	gct	cca	3949	
Ala	Asp	Lys	Ala	Pro	Ser	Gln	Ser	Glu	Ser	Glu	Pro	Glu	Lys	Ala	Pro		
		1280					1285	,				1290	ı				
																•	
ttg	tgc	agt	gtg	ccc	cca	ccc	cct	cct	tca	gcc	ttt	gcc	gaa	atg	ggt	3997	
Leu	Cys	Ser	Val	Pro	Pro	Pro	Pro	Pro	Ser	Ala	Phe	Ala	Glu	Met	Gly		
1295						1300				1305							
agt	gat	cac	aca	cag	tca	tct	gca	agc	aaa	atc	tca	caa	gat	gtg	gac	4045	
Ser	Asp	His	Thr	Gln	Ser	Ser	Ala	Ser	Lys	I l e	Ser	Gln	Asp	Val	Asp		
1310)				1315					1320					1325		

aaa	gag	gat	gag	ttt	ggt	tac	agc	tgg	aaa	aat	atc	aga	gag	cgt	tat		4093
Lys	Glu	Asp	Glu	Phe	Gly	Tyr	Ser	Trp	Lys	Asn	Ile	Arg	Glu	Arg	Tyr		
				133	0				1335	5				1340)		
gga	acc	cta	aca	ggc	gag	ctg	cat	atg	att	gaa	ctg	gag	aaa	ggt	cat		4141
Gly	Thr	Leu	Thr	Gly	Glu	Leu	His	Met	Ile	Glu	Leu	Glu	Lys	Gly	His		
		1345					1350)				1355					
agt	ggt	ttg	ggc	cta	agt	ctt	gct	ggg	aac	aaa	gac	cga	tcc	agg	atg		4189
Ser	Gly	Leu	Gly	Leu	Ser	Leu	Ala	Glÿ	Asn	Lys	Asp	Arg	Ser	Arg	Met		
		1360 1368					1365	5 1:					1370				
agt	gtc	ttc	ata	gtg	ggg	att	gat	cca	aat	gga	gct	gca	gga	aaa	gat	•	4237
Ser	Val	Phe	Ile	Val	Gly	Ile	Asp	Pro	Asn	Gly	Ala	Ala	Gly	Lys	Asp		
	1375					1380					1385						
			. •			•							٠				
ggt	cga	ttg	caa	att	gca	gat	gag	ctt	cta	gag	atc	aat	ggt	cag	att		4285
Gly	Arg	Leu	61n	Ile	Ala	Asp	Glu	Leu	Leu	Glu	Ile	Asn	Gly	Gln	Ile		
1390)				1395	5				1400)				1405	_	
		****															•
tta	tat	gga	aga	agt	cat	cag	aat	gcc	tca	tca	atc	att	aaa	tgt	gcc		4333
Leu	Tyr	Gly	Arg	Ser	His	Gln	Asn	Ala	Ser	Ser	Ile	Ile	Lys	Cys	Ala		
		1410						1415					1420				
															,		
cct	tct	888	gtg	aaa	ata	att	ttt	atc	aga	aat	aaa	gat	gca	gtg	aat		4381
Pro	Ser	Lys	Val	Lys	Ile	Ile	Phe	Ile	Arg	Asn	Lys	Asp	Ala	Val	Asn		

1435

														4 - 4		4420	
												ttg				4429	
Gln	Met	Ala	Val	Cys	Pro	Gly	Asn	Ala	Val	Glu	Pro	Leu	Pro	Ser	Asn		
	1440					1445						1450					
tca	gaa	aat	ctt	caa	aat	aag	gag	aca	gag	cca	act	gtt	act	act	tct	4477	
Ser	Glu	Asn	Leu	Gln	Asn	Lys	Glu	Thr	Glu	Pro	Thr	Val	Thr	Thr	Ser		
,						1460					1465				•		
,	1455						•										
											à					4595	
												caa		•		4525	
A-sp	Ala	Ala	Val	Asp	Leu	Ser	Ser	Phe	Lys	Asn,	Val	Gln	His	Leu	Glu		
147	1470 1475					5	1480						1485				
										•					-		
ctt	ccc	aag	gat	cag	ggg	ggt	ttg	ggt	att	gct	atc	agc	gaa	gaa	gat	4573	
			Lys Asp Gln Gly Gly 1490						1495)			
					•												
										·		. 4		-4-		4621	
		7										cat				4021	
Thr	Leu	Ser	Gly	Val	Ile	Ile	Lys	Ser	Leu	Thr	Glu	His	Gly	Val	Ala		
	1505						1510						151	5			
								•									
gcc	acg	gat	gga	cga	ctc	aaa	gtc	gga	gat	cag	ata	ctg	gct	gta	gat	4669	
															Asp		
	- ** *			3		•	152		-			153					
	1520						106										

gat gaa att gtt gtt ggt tac cct att gaa aag ttt att agc ctt ctg

Asp Glu Ile Val Val Gly Tyr Pro Ile Glu Lys Phe Ile Ser Leu Leu
1535 1540 1545

	153	J				1540	U				1548)				
															·	
aaş	aca	gca	aag	atg	aca	gta	aaa	ctt	acc	atc	cat	gct	gag	aat	cca	4765
Lys	Thr	Ala	Lys	Met	Thr	Val	Lys	Leu	Thr	Ile	His	Ala	Glu	Asn	Pro	
155	0				155	5				1560)				1565	
			4	-44	4	•		4								4010
	tcc															4813
Asp	Ser	Gln	Ala	Val	Pro	Ser	Ala	Ala	Gly	Ala	Ala	Ser	Gly	Glu	Lys	
				1570)				1575	i				1580)	
		•														
aag	aac	agc	tcc	cag	tct	ctg	atg	gtc	cca	cag	tct	ggc	tcc	cca	gaa	4861
	Asn						•									
-,-		•••								V	•••	,				
			1585)				1590)				1595)		
			1588)				1590)		-		1595)		
ccg	gag	tcc			aat	aca	agc			tca	ac a	cca			ttt	4909
	gag Glu		atc	cga				aga	tca				gca	att		4909
			atc Ile	cga				aga Arg	tca				gca Ala	att		4909
		Ser	atc Ile	cga			Ser	aga Arg	tca			Pro	gca Ala	att		4909
Pro	Glu	Ser 1600	atc Ile	cga Arg	Asn	Thr	Ser 1605	aga Arg	tca Ser	Ser	Thr	Pro 1610	gca Ala	att	Phe	
Pro		Ser 1600	atc Ile	cga Arg	Asn	Thr	Ser 1605	aga Arg	tca Ser	Ser	Thr	Pro 1610	gca Ala	att	Phe	4909
Pro	Glu	Ser 1600	atc Ile	cga Arg	Asn	Thr	Ser 1605 ccc	aga Arg	tca Ser	Ser	Thr	Pro 1610	gca Ala	att Ile	Phe	
Pro	Glu	Ser 1600 gat	atc Ile	cga Arg	Asn	Thr	Ser 1605	aga Arg	tca Ser	Ser	Thr	Pro 1610 tgc Cys	gca Ala	att Ile	Phe	
Pro	Glu tct Ser	Ser 1600 gat	atc Ile	cga Arg	Asn	tgc Cys	Ser 1605	aga Arg	tca Ser	Ser	Thr ggc Gly	Pro 1610 tgc Cys	gca Ala	att Ile	Phe	
Pro gct Ala	tct Ser 1615	Ser 1600 gat Asp	atc He cct Pro	cga Arg gca Ala	acc Thr	tgc Cys	Ser 1605 ccc Pro	aga Arg att Ile	tca Ser atc	Ser cct Pro	Thr ggc Gly 1625	Pro 1610 tgc Cys	gca Ala gaa Glu	att Ile aca Thr	Phe acc Thr	
Pro gct Ala	Glu tct Ser	Ser 1600 gat Asp	atc He Cct Pro	cga Arg gca Ala	acc Thr	tgc Cys 1620	Ser 1605 ccc Pro	aga Arg att Ile	tca Ser atc Ile	ser cct Pro	ggc Gly 1625	Pro 1610 tgc Cys	gca Ala gaa Glu	att Ile aca Thr	Phe acc Thr	4957

ggt	tca	gac	acg	ctg	ctg	ggt	gcc	ttt	att	atc	cat	gaa	gtt	tat	gaa		5053
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G1u	Gly	Ala	Ala	Cys	Lys	Asp	Gly	Arg	Leu	Trp	Ala	Gly	Asp	Gln	Ile		
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Leu	Glu	Val	Asn	Gly	Ile	Asp	Leu	Arg	Lys	Ala	Thr	His	Asp	Glu	Ala		
		1686)				1685	j				1690)		•		
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Arg	Asp	Glu	Ala	Pro	Tyr	Lys	Glu	Glu	Glu	Val	Cys	Asp	Thr	Leu	Thr		
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Ile	Glu	Leu	Gln	Lys	Lys	Pro	Gly	Lys	Gly	Leu	Gly	Leu	Ser	Ile	Val		
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Gly	Lys	Arg	Asn	Asp	Thr	Gly	Val	Phe	Val	Ser	Asp	Ile	Val	Lys	Gly		
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Ala	Leu	Leu	Lys	Cys	Ser	Leu	Gly	Thr	Val	Thr	Leu	Glu	Val	Gly	Arg	
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Ile	Lys	Ala	Gly	Pro	Phe	His	Ser	Glu	Arg	Arg	Pro	Ser	Gln	Thr	Ser	
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					agc Ser					act						5581
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Thr	Asp	Ser	Leu	Gly	Ile	Ser	Ile	Ala	Gly	Gly	Val	Gly	Ser	Pro	Leu	
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Gly	Thr	Ser	Thr	Glu	Gly	Met	Thr	His	Thr	Gln	Ala	Val	Asn	Leu	Leu	
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aaa	aat	gca:	tct	ggc	tcc	att	gaa	atg	cag	gtg	gtt	gct	gga	gga	gac	5917
Lys	Asn	Ala	Ser	Gly	Ser	Ile	Glu	Met	Gln	Val	Val	Ala	Gly	Gly	Asp	
	1935	1	₹,-			1940)				1945	,				
				٠												
gtg	agt	gtg	gtc	aca	ggt	cat	cat	cag	gag	cct	gca	agt	tcc	agt	ctt	5965
Val	Ser	Val	Val	Thr	Gly	His	His	Gln	Glu	Pro	Ala	Ser-	Ser	Ser	Leu	
1950)				1955	i				1960)				1965	

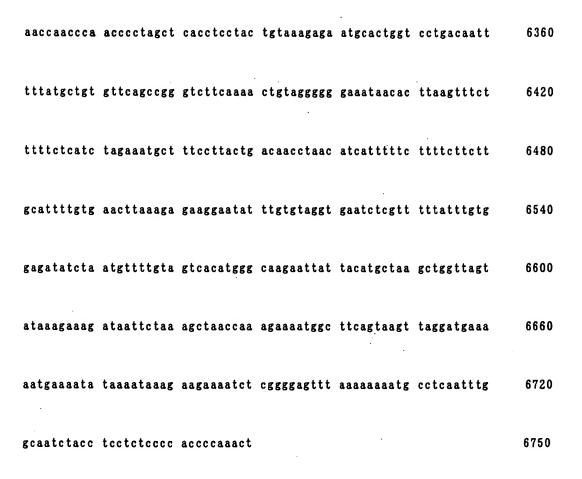
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Glu Gly Val Thr His Glu Glu Ala Val Ala Ile Leu Lys Arg Thr Lys
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2065



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															aat	157
Ala	Glu	Arg	. Let	ı Glo	Thr	Lys	Leu	Arg	; Glu	Arg	Gly	7 Ası	Val	Ala	Asn	
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Glu	Asp	Lys	Leu	Ser	Leu	Leu	Lys	Ser	Val	Leu	Gln	S _e r	Pro	Leu	Phe	
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Ser	Gln	Ile	Leu	Ser	Leu	Gln	Thr	Ser	Val	Gln	Gln	Leu	Lys	Asp	Gln	
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Val	Asn	Ile	Ala	Thr	Ser	Ala	Thr	Ser	Asn	Ile	G1u	Tyr	A1a	His	Val	
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			W.C.													•
gct	atc	aat	gga	cag	gct	ctt	gat	cag	aca	att	aca	cat	cag	cag	gct	685
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190			·		195		•			200					205	
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Ser	Ala	Ala	Ser	Thr	I l e	Ser	Ala	His	Ser	Asn	Pro	Val	His	Trp	Gln	
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•														•		
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His	Met	Glu	Thr	Ile	Glu	Leu	Val	Asn	Asp	Gly	Ser	Gly	Leu	Gly	Phe	
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Gly	Ile	Ile	Gly	Gly	Lys	Ala	Thr	Gly	Val	Ile	Val	Lys	Thr	Ile	Leu	
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cct	gga	888	gta	gct	gat	cag	cat	ggg	cgt	tta	tgc	agt	gga	gac	cac	973
Pro	Gly	Gly	Val	Ala	Asp	Gln	His	Gly	Arg	Leu	Cys	Ser	Gly	Asp	His	
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Ile	Len	Lys	ΙÌρ	Glv	Asn	Thr	Asp	Leu	Ala	Gly	Met	Ser	Ser	Glu	Gln	
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Tyr	Glu	Lys	Asp T	Glu	Asp	Phe	Leu	Ser	Ser	Thr	Arg	Asn	Thr	Asn	Ile	
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G 1 m	Ile	Glu	Agn	Ala	Gln	I. v a	Gln	Glu	Ala	A 1 a	Len	ī.en	Thr	I.ve	Trp	

530

535

540

2029

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Leu	Pro	Ile	Glu	Val	Thr	Met	Val	Cys	Cys	Arg	Arg	Thr	Val	Pro	Pro	
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gag gtt caa gca cct ttg gcc atg tgg gag gct ggc att cag cac ata Glu Val Gln Ala Pro Leu Ala Met Trp Glu Ala Gly Ile Gln His Ile

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gtg cct ggc ggc att gct gaa aag gat gga cga ctt ctt cct ggt gac Val Pro Gly Gly Ile Ala Glu Lys Asp Gly Arg Leu Leu Pro Gly Asp

ŧΞ

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	815	<u> 1</u> 53				820					825					•
				:				•								
aca	aat	gat	gct	gac	tta	gta	gat	gaa	tcc	aca	ttt	gag	tct	cca	tac	2605
Thr	Asn	Asp	Ala	Asp	Leu	Val	Asp	Glu	Ser	Thr	Phe	Glu	Ser	Pro	Tyr	
830					835					840					845	
										•						
		gaa														2653
Ser	Pro	Glu			Ser	Ile	Tyr			Gln	Ala	Ser	Ile		Ser	
				850					855					860		

ctt	cat	ggc	agt	tct	tgt	ggt	gat	ggc	ctg	aac	tat	ggt	tct	tcc	ctt	2701
Leu	His	Gly	Ser	Ser	Cys	Gly	Asp	Gly	Leu	Asn	Tyr	Gly	Ser	Ser	Leu	
	-		865					870					875			
		,														
cca	tca	tct	cct	cct	aag	gat	gtt	att	gaa	aat	tct	tgt	gat	cca	gta	2749
Pro	Ser	Ser	Pro	Pro	Lys	Asp	Val	Ile	Glu	Asn	Ser	Cys	Asp	Pro	Val	
		880					885					890				
															-	
ctt	gat	ctg	cat	atg	tct	ctg	gag	gaa	cta	tat	acc	cag	aat	ctc	ctg	2797
Leu	Asp	Leu	His	Met	Ser	Leu	Glu	Glu	Leu	Tyr	Thr	Gln	Asn	Leu	Leu	
	895					900					905		•			
					•											
		cag														2845
	Arg	Gln	Asp	Glu	Asn	Thr	Pro	Ser	Val	Asp	Ile	Ser	Met	Gly	Pro	
910					915					920					925	
. 4																
		ggc											•			2893
A18	3er	Gly	Phe		116	ASD	Asp	Tyr		Pro	Ala	Asn	Ala		Glu	
				930					935					940		
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cca	agt	gaa	gtt	ata	tca	agt	gca	gaa	ctt	cct	tct	gte	cta	ccc	gat	2989
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tca gct gga aag ggc tct gag cac ctg ctt gaa cag agc tcc ctg gcc Ser Ala Gly Lys Gly Ser Glu His Leu Leu Glu Gln Ser Ser Leu Ala

tgt aat gct gag tgt gtc atg ctt caa aat gta tct aaa gaa tct ttt Cys Asn Ala Glu Cys Val Met Leu Gln Asn Val Ser Lys Glu Ser Phe

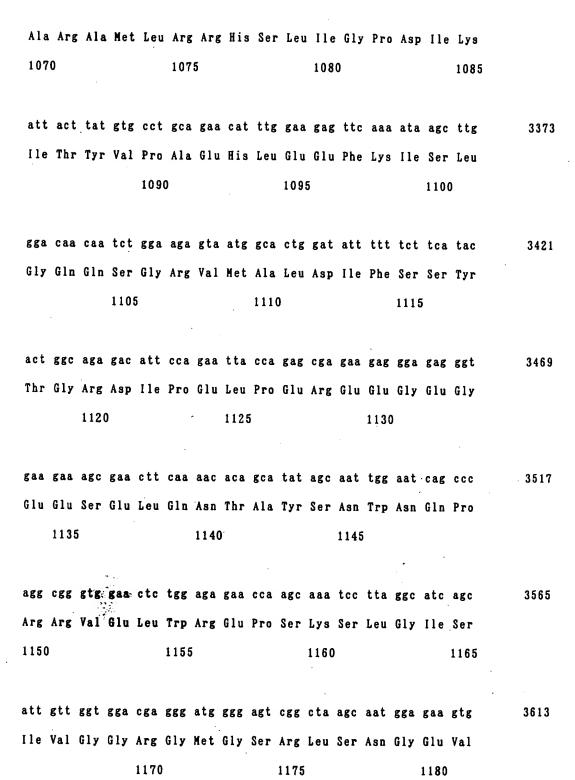
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gtt agt gct aat aaa gat ggc ttg ggg atg atc gtt cga agc att att Val Ser Ala Asn Lys Asp Gly Leu Gly Met Ile Val Arg Ser Ile Ile

cat gga ggt gcc att agt cga gat ggc cgg att gcc att ggg gac tgc His Gly Gly Ala Ile Ser Arg Asp Gly Arg Ile Ala Ile Gly Asp Cys

atc ttg tcc att aat gaa gag tct acc atc agt gta acc aat gcc cag Ile Leu Ser Ile Asn Glu Glu Ser Thr Ile Ser Val Thr Asn Ala Gln

gca cga gct atg ttg aga aga cat tct ctc att ggc cct gac ata aaa





atg	agg	ggc	att	ttc	atc	aaa	cat	gtt	ctg	gaa	gat	agt	cca	gct	ggc	3661
Met	Arg	Gly	Ile	Phe	Ile	Lys	His	Val	Leu	Glu	Asp	Ser	Pro	Ala	Gly	
			118	5		-		1190)				1195	i		•
aaa	aat	gga	acc	ttg	aaa	cct	gga	gat	aga	atc	gta	gag	gtg	gat	gga	3709
Lys	Asn	Gly	Thr	Leu	Lys	Pro	Gly	Asp	Arg	Ile	Val	Glu	Val	Asp	Gly	
		120	0				1205	;				1210)			
		•													•	
atg	gac	ctc	aga	gat	gca	agc	cat	gaa	caa	gct	gtg	gaa	gcc	att	cgg	3757
Met	Asp	Leu	Arg	Asp	Ala	Ser	His	Glu	Gln	Ala	Val	Glu	Ala	Ile	Arg .	
	121	5				1220					1225					•
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aaa	gca	ggc	aac	cct	gta	gtc	ttt	atg	gta	taga	gctt	ta t	taca	gaco	a	3807
Lys	Ala	G1 y	Asn	Pro	Val	Val	Phe	Met	Val							
1230)				1235											
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aggg	caco	ca g	tcag	tcag	t ca	gagt	caga	gtc	agag	tca	gago	caga	ga a	.ggc t	ccatt	3867
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tgtc	ccca	ta g	rggg	gatt	g at	ccaa	atgg	agc	tgca	gga	aaag	atgg	tc g	attg	caaat	4167





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accatctgt	ggcacatcca	ctgagggcat	gactcacacc	caagcagtta	acctactgaa	5787





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a	ggʻ	tca	tc	at	cai	gga	gc	ctg	CE	ag	ttc	cag	tc	tt	tct	ttc	ac	tgg	gct	ga	cgi	tca	acc	ag		5901
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